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

FORM 10-K

☒ **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: 001-35980

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

Delaware	**20-0094687**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

530 Fairview Avenue North
Seattle, Washington 98109
(Address of principal executive offices)
(206) 378-6266
(Registrant's telephone number, including area code)

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

Title of Each Class	Trading Symbol(s)	Name of Exchange on Which Registered
Common Stock, $0.0001 par value per share	**NSTG**	**The NASDAQ Stock Market LLC (The NASDAQ Global 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 Section 15(d) of the Act Yes ☐ No ☒

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T 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 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. (Check one):

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 Act). (Check one): Yes ☐ No ☒

The aggregate market value of the voting and non-voting stock held by non-affiliates of the Registrant, based on the closing sale price of the Registrant's common stock on the last business day of its most recently completed second fiscal quarter, as reported on The NASDAQ Global Market, was approximately $1.1 billion. Shares of common stock held by each executive officer and director and by each other person who may be deemed to be an affiliate of the Registrant, have been excluded from this computation. The determination of affiliate status for this purpose is not necessarily a conclusive determination for other purposes.

There were 44,582,322 shares of the Registrant's common stock, $0.0001 par value per share, outstanding on February 22, 2021.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement to be filed with the Securities and Exchange Commission in connection with the registrant's 2021 Annual Meeting of Stockholders, which will be filed subsequent to the date hereof, are incorporated by reference into Part III of this Form 10-K. Such proxy statement will be filed with the Securities and Exchange Commission not later than 120 days following the end of the registrant's fiscal year ended December 31, 2020.

NANOSTRING TECHNOLOGIES, INC.
ANNUAL REPORT ON FORM 10-K
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2020

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Risk Factor Summary

Our business is subject to numerous risks and uncertainties, including those highlighted in the section of this report titled "Risk Factors." The following is a summary of the principal risks we face:

- We face risks related to health epidemics and other outbreaks, such as COVID-19, which could significantly disrupt our operations and could have a material adverse impact on us.
- We have incurred losses since we were formed and expect to incur losses in the future. We cannot be certain that we will achieve or sustain profitability.
- Our financial results may vary significantly from quarter to quarter which may adversely affect our stock price.
- If we do not achieve, sustain or successfully manage our anticipated growth, our business and growth prospects will be harmed.
- Our future success is dependent upon our ability to expand our customer base and introduce new applications and products.
- New market opportunities may not develop as quickly as we expect, limiting our ability to successfully market and sell our products.
- Our research business depends on levels of research and development spending by academic and governmental research institutions and biopharmaceutical companies, a reduction in which could limit demand for our products and adversely affect our business and operating results.
- Our sales cycle is lengthy and variable, which makes it difficult for us to forecast revenue and other operating results.
- Our reliance on distributors for sales of our products outside of the United States could limit or prevent us from selling our products and impact our revenue.
- Our future capital needs are uncertain and we may need to raise additional funds in the future.
- We may not be able to develop new products, enhance the capabilities of our systems to keep pace with rapidly changing technology and customer requirements or successfully manage the transition to new product offerings, any of which could have a material adverse effect on our business and operating results.
- We are dependent on single source suppliers for some of the components and materials used in our products, and the loss of any of these suppliers could harm our business.
- We may experience manufacturing problems or delays that could limit our growth or adversely affect our operating results.
- We expect to generate a substantial portion of our product and service revenue internationally and are subject to various risks relating to our international activities, which could adversely affect our operating results.
- Undetected errors or defects in our products could harm our reputation, decrease market acceptance of our products or expose us to product liability claims.
- If we experience a significant disruption in our information technology systems or breaches of data security, our business could be adversely affected.
- New product development involves a lengthy and complex process, and we may be unable to commercialize on a timely basis, or at all, any of the products we develop individually or with our collaborators.
- The life sciences research market is highly competitive. If we fail to compete effectively, our business and operating results will suffer.
- We are subject to ongoing and extensive regulatory requirements, and our failure to comply with these requirements could substantially harm our business.
- Healthcare policy changes, including legislation reforming the United States healthcare system, may have a material adverse effect on our financial condition and results of operations.
- If we are unable to protect our intellectual property effectively, our business would be harmed.
- The price of our common stock may be volatile, and you could lose all or part of your investment.
- Complying with the laws and regulations affecting public companies increases our costs and the demands on management and could harm our operating results.

Special Note Regarding Forward-Looking Information

This Annual Report on Form 10-K, including the "Management's Discussion and Analysis of Financial Condition and Results of Operation" section in Item 7, and other materials accompanying this Annual Report on Form 10-K contain forward-looking statements that are based on our management's beliefs and assumptions and on information currently available. The statements contained in this Annual Report on Form 10-K that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended.

Forward-looking statements can be identified by words such as "believe," "anticipate," "could," "continue," "depends," "expect," "expand," "forecast," "intend," "predict," "plan," "rely," "should," "will," "may," "seek," or the negative of these terms and other similar expressions, although not all forward-looking statements contain these words. You should read these statements carefully because they discuss future expectations, contain projections of future results of operations or financial condition, or state other "forward-looking" information. These statements relate to our future plans, objectives, expectations, intentions and financial performance and the assumptions that underlie these statements. These forward-looking statements include, but are not limited to:

- our expectations regarding our future operating results and capital needs, including our expectations regarding instrument, consumable and total revenue, operating expenses, sufficiency of cash on hand and operating and net loss;
- our expectations regarding the impact of the COVID-19 global pandemic as it relates to our ongoing operations, including our customer order activity levels and key supplier requirements;
- our ability to successfully commercialize our GeoMx DSP platform;
- our ability to successfully develop our Spatial Molecular Imager platform and pursue potential commercial applications and partnerships;
- the success, costs and timing of implementation of our business model, strategic plans for our business and future product development plans;
- the regulatory regime and our ability to secure and maintain regulatory clearance or approval or reimbursement for the clinical use of our products, domestically and internationally;
- our strategic relationships, including with patent holders of our technologies, manufacturers and distributors of our products, and collaboration partners;
- our intellectual property position;
- our ability to attract and retain key scientific or management personnel;
- our expectations regarding the competitive position, market size and growth potential for our business; and
- our ability to sustain and manage growth, including our ability to expand our customer base, develop new products, enter new markets and hire and retain key personnel.

All forward-looking statements are based on information available to us on the date of this Annual Report on Form 10-K and we will not update any of the forward-looking statements after the date of this Annual Report on Form 10-K, except as required by law. Our actual results could differ materially from those discussed in this Annual Report on Form 10-K. The forward-looking statements contained in this Annual Report on Form 10-K, and other written and oral forward-looking statements made by us from time to time, are subject to certain risks and uncertainties that could cause actual results to differ materially from those anticipated in the forward-looking statements, and you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. Factors that might cause such a difference include, but are not limited to, those discussed in the following discussion and within Part I, Item 1A — "Risk Factors" of this Annual Report on Form 10-K. In this report, "we," "our," "us," "NanoString," and "the Company" refer to NanoString Technologies, Inc. and its subsidiaries.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Annual Report on Form 10-K, and although we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted a thorough inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

PART I

Item 1. Business

Overview

We develop, manufacture and sell products that unlock scientifically valuable and clinically actionable information from minute amounts of biological material. Our core technology includes unique, proprietary chemistries that enable the labeling and counting of single molecules. Our mission is to incorporate our core technology into proprietary product platforms that enable our customers to map the universe of biology.

We use our core technology to develop tools for scientific and clinical research, primarily in the fields of genomics and proteomics. Our proprietary chemistries may reduce the number of steps required to conduct certain types of scientific experiments and allow for multiple experiments to be conducted at once. Our platforms are also able to extract information from multiple types of biological samples, including those that are often challenging to work with, using other scientific methods or platforms. As a result, we are able to develop tools that are easier for researchers to use and that may generate faster and more consistent scientific results.

We currently offer two commercially available product platforms: our nCounter Analysis System, or nCounter, and our GeoMx Digital Spatial Profiler, or DSP, system, both of which include instruments, related consumables and software. We also have a new product platform candidate, our Spatial Molecular Imager, or SMI, currently under development.

nCounter was launched in 2008 and was our first commercially available product platform. It can be used to analyze the activity of up to 800 genes in a single experiment. nCounter is also used by clinicians to analyze gene activity relevant for diagnostic applications. nCounter is used to conduct what is known as bulk gene activity, or gene expression analysis, whereby biological samples are first reduced, and then the level of gene expression is measured at its average level throughout the totality of the sample. As of December 31, 2020, we had an installed base of approximately 950 nCounter systems, which our customers have used to publish more than 4,000 peer-reviewed scientific papers.

GeoMx DSP was launched in 2019 and is our second commercially available product platform. It is designed to enable the field of spatial biology. While nCounter and other predominantly used gene expression analysis technologies use bulk analysis approaches, GeoMx DSP is used to facilitate the analysis of specifically selected regions of an intact biological sample in order to see how gene expression might vary across those regions, or in certain cell types. As of December 31, 2020, we had an installed base of approximately 130 GeoMx DSP systems, which our customers have used to publish 35 peer-reviewed scientific papers.

GeoMx DSP operates by enabling users to prepare and select certain regions of a biological sample in which to study gene or protein expression, without the need to reduce or destroy the sample. After a researcher selects regions of interest, GeoMx DSP arranges the biological information extracted from these regions to be subsequently quantified and analyzed, or “read out,” by a platform such as nCounter, or by a next generation sequencer, or NGS, system, such as systems manufactured by Illumina, Inc. When GeoMx DSP was first made commercially available, researchers were only able to read out information on up to 96 biological targets from each of their GeoMx-selected regions of interest using nCounter. In August 2020, we added software capabilities and consumables for GeoMx that enabled information in regions of interest to be read out using Illumina NGS systems, which significantly expanded the number of biological targets researchers can choose to analyze in selected regions. Linking GeoMx DSP with NGS also significantly expands our total potential market opportunity. As of December 31, 2020 there were more than 17,000 Illumina NGS systems installed globally.

In advance of and subsequent to our recent commercial launch of GeoMx DSP, we have offered selected customers the opportunity to send biological samples to our Seattle facilities to be analyzed by us using GeoMx DSP under our technology access program, or TAP. Upon completion of each project, the raw data and analysis report is provided to the customer. As of December 31, 2020, we have conducted over 430 TAP projects for approximately 200 customers.

We have discovered other novel spatial biology applications that utilize our core technology. We are developing a new platform, the SMI, which is designed to combine the spatial profiling of a large number of biological targets with high-resolution imaging. The SMI is expected to enable the analysis of up to 1,000 biological targets directly from single cells within morphologically intact tissue samples, as compared to GeoMx DSP which typically offers such profiling across regions containing multiple cells. SMI incorporates a proprietary version of our chemistry that was originally developed as part of our NGS sequencing, or Hyb & Seq, platform development program. We currently expect the SMI instrument, consumables and software to be made commercially available in the second half of 2022.

New discoveries in genetics have generated a significant amount of scientific information and medical advancement. The decoding of the human genome and the subsequent generation of large amounts of gene sequence data have led to the emergence of pathway-based biology, whereby researchers seek to understand how networks of genes may work together to produce a biological function or condition. The desire to interpret gene sequence data and map biological pathways has led to

demand for technologies that can precisely and efficiently measure the activation state, or expression level, of hundreds of genes simultaneously.

Demand for these new or improved technologies has been driven by researchers in disease areas such as cancer, immunology and neurology. Researchers in these fields are increasingly attempting to determine which sequences of genes or mutations are important in disease-related biological pathways so that new potential treatments might be developed. For example, in the field of cancer, researchers and clinicians have learned that cancer cell behavior is impacted by multiple genes and that analysis of these factors together may be important in determining whether or not a cancer might be responsive to a certain treatment. In addition, more cancers are being detected earlier and tumor samples are becoming smaller and smaller. Tumor samples are often stored in a format known as formalin-fixed paraffin embedded, or FFPE, which complicates subsequent analysis of genetic material. Researchers and clinicians may face similar challenges with analysis of biological samples in other therapeutic areas of interest.

Our proprietary chemistries, which to date have been incorporated into our nCounter and GeoMx DSP product platforms, address many of the fundamental challenges of genetic and molecular profiling and biological pathway research. The sensitivity and precision of our chemistries allow the measurement of subtle changes in the activity of multiple genes from minute amounts of a biological sample. Our chemistries are particularly compatible with FFPE, increasing their popularity among cancer researchers. Our chemistries also support product configurations that are easy to use with simple workflow as compared to many other scientific platforms used for genetic and proteomic research, including absence of library preparation and amplification steps that can be cumbersome or time consuming or that may introduce the possibility of measurement errors. The sensitivity and workflow efficiency of our product platforms also allows for testing of many different samples in a single day, enabling our products to be potentially useful in hospital or similar settings to conduct clinical diagnostic tests.

We market and sell our systems and related consumables to researchers in academic, government and biopharmaceutical laboratories for research use, both through our direct sales force and through selected distributors in certain international markets. We generated revenue of $117.3 million, $125.6 million and $106.7 million in 2020, 2019 and 2018, respectively, while incurring net losses of $110.1 million, $40.7 million and $77.4 million in 2020, 2019 and 2018, respectively.

We are organized as, and operate in, one reportable segment. For additional information, see Note 2 of the Notes to Consolidated Financial Statements of this report. For financial information regarding our business, see Part II, Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this report and our audited consolidated financial statements and related notes included elsewhere in this report.

We were incorporated in Delaware in June 2003. Our principal executive offices are located at 530 Fairview Avenue, North, Seattle, Washington 98109 and our telephone number is (206) 378-6266. Our common stock trades on The Nasdaq Global Market under the symbol “NSTG.”

This Annual Report on Form 10-K includes our trademarks and registered trademarks, including “NanoString,” “NanoString Technologies,” “nCounter,” “nCounter SPRINT,” “nSolver,” “Hyb & Seq,” and “GeoMx.” Each other trademark, trade name or service mark appearing in this Annual Report on Form 10-K belongs to its holder.

Our Market Opportunity

Every living organism has a genome that contains a full set of biological instructions required to build and maintain life. A gene is a specific set of instructions embedded in the DNA of a cell. For a gene to be “turned on,” or “expressed,” the cell must first transcribe a copy of its DNA sequence into molecules of messenger RNA. Then, the cell translates the expressed information contained in RNA into proteins that control most biological processes. In addition to the translated RNAs, there are many types of non-coding RNAs that are involved in many cellular processes and the control of gene expression, including microRNA, or miRNA.

By analyzing the variations in genomes, genes, gene activity or expression and proteins in and between organisms, researchers can determine their functions and roles in health and disease. An improved understanding of the genome and its functions allows researchers to drive advancements in scientific discovery. As they make scientific discoveries, researchers have been able to translate some of these findings into clinical applications that improve patient care.

Biological pathways are the networks of tens or hundreds of genes that work together to produce a biological function. Understanding the activation state of pathways and disruptions in individual elements provides significant insight into the fundamental basis of health and disease and facilitates data driven treatment decisions. As a result, pathway-based biology has become a widely adopted paradigm that researchers use to understand biological processes and has assisted them in the development of diagnostic tests and drugs to treat disease.

Understanding biological pathways has become particularly important in cancer research and treatment. Cancer is a disease generally caused by genetic mutations in cells. The behavior of cancer cells is extremely complex and depends on the activity of many different genes and proteins. It is often impossible for researchers to identify a single gene or protein that adequately predicts a more or less aggressive type of cancer. In some cases, researchers have been able to identify more or less aggressive types of cancer through gene expression analysis of biological pathways, enabling oncologists to determine which specific treatments are most likely to be effective for an individual patient, monitor a patient's response to those treatments and determine the likelihood of recurrence. Recently cancer researchers, in part based on their research of biological pathways and gene expression, have begun to demonstrate the potential of harnessing a patient's immune system to fight cancer. A new class of therapeutics, referred to generally as immuno-oncology drugs, have begun to come to market with the promise of long-term remissions, or even cures, in certain types of cancer.

As interest in understanding biological pathways that may be relevant to medicine has increased, academic, government and biopharmaceutical company researchers have aspired to perform analyses of a larger number of genes and samples and are seeking new methods of interrogation that would allow them to:

- increase the number of molecular targets that can be analyzed simultaneously in order to understand the complete biological pathway involving multiple genes;
- provide more reliable, precise and reproducible data about targeted genes and biological pathways;
- maximize the amount of biologic information extracted from precious tissue or other biological samples;
- minimize the computational intensity of complex genomic and proteomic analysis;
- process difficult-to-work-with specimens, such as tumor biopsies stored in FFPE format;
- improve the overall efficiency of their laboratories by simplifying workflow and accelerating the rate of successfully completing their research; and
- create more systematic and reliable ways to help transition their research discoveries into future clinical products.

The interest in new methods of interrogation has led to the development of new research technologies. Certain technologies to experience rapid adoption have focused primarily on determining the sequence of a person's or organism's DNA, in order to assess how differences among individuals might be predictive of health or disease. In particular, a technology known as next generation sequencing, or NGS, has become widely adopted. In recent years NGS use has accelerated, as the technology has improved and the cost to sequence DNA using NGS has declined. As of December 31, 2020, there were more than 17,000 NGS systems installed in laboratories globally.

While NGS has revolutionized researchers' ability to generate gene sequence data rapidly and cost effectively on large numbers of biological samples, other aspects of examining biological pathways are often still done using legacy techniques or new technologies that have proved less capable of providing multiplexed experimentation, ease of use and low cost. Together with determining a gene sequence via NGS, pathway-based research requires further analysis of the activity of multiple genes and small changes in their expression, or of how gene expression may vary depending on where certain cells are situated within biological tissue, which can be challenging for traditional scientific tools.

Researchers interested in multiplex gene expression or biological pathway analysis have traditionally performed experiments using microarrays or quantitative polymerase chain reaction, or qPCR, and protein expression experiments using flow cytometry, mass spectrometry, immunohistochemistry or enzyme-linked immunosorbent assay, or ELISA, assays. These techniques have been available for decades, and while suitable for analyzing the expression of a smaller number of genes, may not be cost effective or scalable enough to study biological pathways. While these types of experiments could be repeated to analyze expression of multiple genes, they are often destructive of biological samples, creating limitations given the amounts of biological sample that may be available. These methods also destroy the spatial integrity of the sample, eliminating any potential analysis of differences in how genes may be expressed based on where a cell or cells are situated in tissue, or how they may be interacting with other cells or biological functions. These types of experiments may also involve library preparation and amplification steps that can be cumbersome or time consuming or that may introduce the possibility of measurement errors.

More recently, RNA sequencing, or RNA-Seq, which is done using NGS technology, has enabled researchers to look at the entirety of the gene expression within a single sample. However, NGS systems have a more complex and time-consuming workflow than traditional methods of analyzing gene or protein expression, and RNA-Seq generates large amounts of data that may be expensive to store and may not have relevance to the scientific question being explored.

In both life sciences research and clinical medicine, there is a growing need for improved technologies that can precisely and rapidly measure the activation state of hundreds of genes simultaneously across a large number of precious samples. Furthermore, there is an emerging desire for technologies that could enable researchers and clinicians to understand gene expression activity in tissue as it is naturally situated in the body, without the need to destroy the structure of the biological sample, in order to see if gene activity might vary depending on how, or where, cells are resident in the sample.

Our Solution

We believe our proprietary chemistries and product platforms provide novel features that address the challenges and technology needs of researchers working to analyze and interpret biological pathways. Our products support experiments that typically take fewer steps as compared to traditional techniques, perform multiplexed experiments in a single run, preserve the spatial integrity of biological samples and have been shown to generate consistent and accurate results from a variety of biological samples, including FFPE embedded cancer tissue. Our proprietary chemistries and product platforms offer a number of compelling advantages, including:

- *Optimized for Pathway-Based Biology and Development of Multiplexed Biomarkers*. Our nCounter Analysis System can profile the activity of up to 800 genes in a single experiment, which allows customers to analyze interactions among hundreds of genes or proteins that mediate biological pathways. Our GeoMx DSP system is designed to enable the multiplex profiling of up to approximately 100 protein targets, and up to thousands of RNA targets in specifically selected regions of a biological sample.
- *Digital Precision*. Our molecular barcodes hybridize directly to target molecules in a sample, allowing them to be counted. This generates digital data (1 molecule = 1 count) of excellent quality over a wide, dynamic range of measurements and provides excellent reproducibility.
- *Simple Workflow*. Our systems are designed to offer minimal sample preparation and automated workflow, which enables the simultaneous analysis of hundreds of genes and proteins in approximately 24 hours between the time a sample is loaded and results are obtained. Our systems can generate data that customers can evaluate without the use of complex bioinformatics.
- *Sample Throughput*. Our nCounter system can analyze from between 24 to 96 samples per day, depending upon the system choice and configuration. GeoMx DSP allows for throughput of 10 or more biological samples per day, depending on the number of regions in the sample selected for analysis. The ability to analyze several samples in a single day facilitates the more rapid completion of scientific studies for publication, or the use of our systems for analysis of pharmaceutical clinical trial results with large numbers of patients enrolled.
- *Flexible Sample Requirements*. Our systems are designed to unlock biologic information from minute amounts of a variety of challenging tissue samples, including FFPE samples, cell lysates and single cells.
- *Efficient Sample Requirements.* Our systems also can generate scientific results using very small amounts of biological material, which may be important in settings, such as pharmaceutical product development, where multiple researchers may desire access to samples.

Our Products and Technology

nCounter Analysis System

Our nCounter Analysis System is an automated, multi-application, digital detection and counting system which directly profiles hundreds of molecules simultaneously, using our proprietary optical barcoding chemistry that is powerful enough for use in research, yet simple enough for use in clinical laboratories. Our nCounter Analysis System is based on automated instruments that prepare and analyze tissue samples using proprietary reagents which can only be obtained from us. Our research customers purchase instruments from us and then purchase our reagents and related consumables for the specific experiment they wish to conduct. Our clinical laboratory customers typically purchase instruments from us and also purchase our reagents and related consumables for tests that they intend to run.

Our nCounter Analysis System is capable of supporting a number of applications including gene expression, protein expression, gene mutation, miRNA expression, copy number variation, gene fusions and molecular diagnostics. We believe our nCounter Analysis System offers a number of advantages, including providing a simpler and faster workflow with minimal hands-on time for multiplex analysis of up to 800 RNA, DNA, or protein targets. Additionally, because nCounter is fully automated and easy-to-use, it is ideal for a range of applications requiring efficient, high-precision, simultaneous quantitation of hundreds of target molecules across a set of biological samples. Our nCounter assays generate high-quality results from challenging sample types, including FFPE and crude cell lysates.

nCounter Instrument Platforms

The left image is the nCounter SPRINT system, the middle image is the nCounter MAX system and the right image is the nCounter FLEX system.

We currently offer three versions of our nCounter Analysis System, each targeted at a distinct user segment. Our nCounter SPRINT is designed to appeal to individual researchers running relatively smaller experiments. Our nCounter MAX is a higher throughput instrument with features appealing to larger core laboratories serving multiple researchers. Our nCounter FLEX, which is targeted toward clinical laboratories, is a version of our MAX system that has been 510(k) cleared by the FDA and CE marked by European regulatory authorities. The nCounter FLEX system was designed and is manufactured under ISO 13485:2003, the current quality standard for *in vitro* diagnostic platforms and medical devices. nCounter FLEX is enabled to run the Prosigna® breast cancer assay, as well as other proprietary or laboratory developed tests, or LDTs, that may be developed. Pursuant to the terms of our License and Asset Purchase Agreement, or LAPA, with Veracyte, Inc., or Veracyte, we granted to Veracyte an exclusive worldwide license to our nCounter FLEX system for *in vitro* diagnostic use and for the development and commercialization of *in vitro* diagnostic tests on the nCounter FLEX system and sold to Veracyte certain assets, including our rights with respect to the Prosigna breast cancer assay. For additional information regarding our agreement with Veracyte, see " — License Agreements — Veracyte, Inc." below.

The nCounter MAX and FLEX systems comprise a Prep Station and a Digital Analyzer. The Prep Station is the automated liquid handling component that processes samples after they are hybridized and prepares the samples for data collection on the Digital Analyzer. The Digital Analyzer collects data from samples by taking images of the immobilized fluorescent reporters in the sample cartridge and processing the data into output files, which include the target identifier and related count numbers along with a broad set of internal controls that validate the precision of each assay. The nCounter MAX and FLEX throughput listed in the table below can be quadrupled using sample multiplexing for experiments targeting 200 genes or fewer. The nCounter SPRINT Profiler combines the liquid handling steps and the digital analysis through use of a special microfluidic cartridge.

	nCounter SPRINT	**nCounter MAX**	**nCounter FLEX**
Target customer	Individual researchers	Core research labs	Clinical labs
Number of workflow steps	2	3	3
Throughput (samples per day) [(1)]	24	48 - 96	48 - 96
Prep station and digital analyzer	No	Yes	Yes
Expandable with additional prep station [(1)]	No	Yes	Yes
Diagnostic menu	No	No	Yes
Hands-on time (minutes)	10	15	15
U.S. list price	$149,000	$235,000	$265,000

[(1)] nCounter MAX and FLEX throughput may be increased to up to 96 samples per day by adding a second prep station.

nCounter Software and Data Analysis

nCounter instrument platforms also include our nSolver Analysis Software, a data analysis program that offers researchers the ability to quickly and easily quality check, normalize and analyze their data without having to use any additional software for data analysis. The FLEX system, in addition to running any of our research applications, can also be enabled with software that runs Prosigna to generate individualized patient reports.

In May 2020, we announced a collaboration with OnRamp Bioinformatics, a provider of cloud-based genomic analysis tools, for the development of new analysis tools for data generated on our nCounter Analysis System. The new analysis functionality is built into ROSALIND™, OnRamp's cloud-based analysis suite that facilitates data visualization, exploration and collaboration. These new capabilities were offered immediately through early access to COVID-19 researchers performing

critical host response studies on our nCounter platform. ROSALIND is a cloud platform that connects researchers to differential expression and pathway exploration in a real-time collaborative environment. We are working with OnRamp to make certain features of nSolver available within ROSALIND, and we are evaluating opportunities for joint development of new analysis solutions.

nCounter Consumables

All three nCounter instruments are capable of running our research consumable products and provide comparable, high-quality data. The majority of our nCounter consumables sold are standardized off-the-shelf "panel" products that represent important gene signatures for certain disease areas. nCounter consumables can also be customized to a specific set of genes at a customer's request.

Panels

We offer more than 50 gene expression panels for use with a broad range of sample types and species, including human, mouse, non-human primate- and other. These pre-manufactured panels contain highly-curated, thematic gene content built in collaboration with the scientific community. nCounter pre-built panels are also customizable to address specific research interests with the purchase of our custom Panel Plus product, allowing for up to 55 additional user defined genes to be added to any off-the-shelf-panel. Our panels can be used throughout the research, drug development, manufacturing and clinical biomarker discovery for oncology, immunology, infectious disease and neuroscience. Below are examples of our newer and most widely used nCounter panels.

Panels with Oncology Applications

Panel Name	Description
PanCancer IO 360	• 770 gene expression panel • Holistic view of tumor, microenvironment and immune response • 39 signatures for understanding mechanisms of immune evasion and developing biomarkers for response to therapeutics
PanCancer Breast Cancer 360	• 776 gene expression panel across 23 key breast cancer pathways • Holistic view specific for breast tumor, microenvironment and immune response • 48 signatures with expanded evaluation of breast cancer subtypes
PanCancer Tumor Signaling 360	• 780 gene expression panel • Holistic view specific for dysfunctional signaling pathways for tumor, microenvironment and immune response • 40+ pathways for identification of targeted therapeutics and understanding of drug mechanisms of action
CAR-T Characterization	• Measure 8 essential components of CAR-T biology with 780 genes • Standardized panel for development collaborations and manufacturing optimization • Streamlined gene expression panel for in-process QC
Immune Exhaustion Panel	• 785 gene expression panel • Deep profiling of immune cell exhaustion resulting from cancer or chronic infection • For therapeutic development studies aimed at targeting or reversing immune exhaustion
Metabolic Pathways Panel	• 768 gene expression panel • Addresses complex mechanisms behind metabolic adaptation, metabolic switching and metabolic alterations as a result of disease • For the study of disease mechanisms and targeted drug development
PanCancer Pathways	• Novel set of 770 essential genes from 13 cancer-associated canonical pathways • For measuring cancer treatment effects on pathways
PanCancer Immune Profiling	• Novel set of 770 genes • Focused panel for measuring the many features of immune response • Unique cell profiling feature enables profiling for 14 different immune cell types

Panels with Immunology and Infectious Disease Applications

Panel Name	Description
Host Response Panel	• Profile 785 genes across 5 phases of infectious disease • Study disease progression, severity, host immune response and convalescence • Serves as a core for pathogen specific Panel Plus module customization
Coronavirus Panel Plus	• Pre-built Panel Plus with genes covering all coronavirus for viral detection • Compatible with the Host Response Panel for COVID studies
Immunology	• 594 general immunology genes • All-purpose panel for broad immunology research studies
Fibrosis Panel	• 770 gene expression panel • In-depth profiling for diseases that lead to fibrotic tissue and organ damage
Human Organ Transplant	• 770 gene expression panel • Focused content for studying organ transplant host response and organ rejection

Panels with Neuroscience Applications

Panel Name	Description
Alzheimer's Disease Panel	• 770 gene expression panel • Useful for monitoring progression of Alzheimer's Disease and functional screening of potential therapeutics
Glial Panel	• 770 gene expression panel • Comprehensive profiling for neuronal and peripheral immune cell types • Suitable for research of neurodegenerative and neuroinflammatory disorders and neurotrauma such as stroke, spinal cord injury and traumatic brain injury
Neuroinflammation	• 770 gene expression panel • In-depth profiling of neuroimmune interactions • Applicable for the study of neurotransmission, neuroplasticity, cell integrity, neuroinflammation and metabolism in neurological disorders

Custom CodeSets

We work with our customers to design and develop custom gene expression CodeSets to enable them to evaluate specific genes that are the subject of their study. Our customers provide us a list of targets for which we subsequently build a unique CodeSet to their specifications. Our design process leverages full length sequences for the DNA or RNA molecules that our customers are interested in detecting and prevents cross hybridization to non-target molecules in the sample. The custom CodeSet design process occurs in four distinct steps: (1) the customer selects the genes of interest, (2) we design probes and provide a design report to the customer, (3) the customer reviews and approves the design report and (4) we manufacture, test and ship the CodeSet to the customer. The manufacturing process typically takes from three to five weeks, depending on the number of genes targeted and samples to be processed by the customer.

Master Kits, Cartridges and Reagents

For our nCounter MAX or FLEX systems, the Master Kit includes all of the ancillary reagents and plasticware required for our customers to be able to setup and process samples in the nCounter Prep Station and nCounter Digital Analyzer. The components of the Master Kit include the sample cartridge, strip tubes, tips, buffers and reagent plates. For our nCounter SPRINT Profiler, customers purchase microfluidic cartridges and separate bottles of reagents which together provide the ancillary components for processing samples with CodeSets and Panels.

Molecular Diagnostics

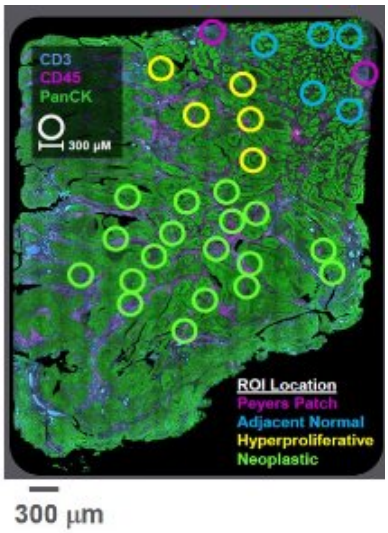
Our nCounter Analysis System has the precision, reproducibility and simple workflow required of technologies used in clinical laboratories. We believe the precision, ease of use and flexibility of the nCounter Analysis System may allow medical technicians to conduct complex molecular diagnostic tests with minimal training.

Clinical laboratory customers use the nCounter Analysis System and our Prosigna breast cancer assay to provide clinical diagnostic services. Prosigna is based on a collection of 50 genes known as the PAM50 gene signature, which was discovered by several of our research customers. Prosigna can provide a breast cancer patient and physician with a subtype classification based on the fundamental biology of the patient's tumor, as well as a prognostic score that indicates the probability of cancer recurrence over 10 years. Physicians use Prosigna to help guide therapeutic decisions so that patients receive a therapeutic intervention, such as chemotherapy, only if clinically warranted. In September 2013, we received 510(k) clearance from the FDA to market in the United States a version of Prosigna providing a prognostic indicator for distant recurrence-free survival at 10 years. In December 2019, we entered into an exclusive license of nCounter diagnostic assets and

rights to Veracyte, Inc. ("Veracyte"). For additional information regarding our agreement with Veracyte, see " — License Agreements — Veracyte, Inc." below.

GeoMx DSP

Our GeoMx DSP system, which was made commercially available in 2019, is designed to enable the field of spatial biology.



The left image is the GeoMx DSP and the right image is a sample region of interest, or ROI, selection using the GeoMx DSP.

nCounter and other existing technologies typically analyze gene activity throughout the totality of a biological sample, using sample reduction or "grind and bind" approaches that analyze average gene expression levels across the entire sample. GeoMx DSP is designed to allow researchers to explore and quantify how the activity of large numbers of proteins or genes vary spatially in different selected regions of interest across the landscape of a heterogeneous tissue biopsy, retaining spatial information and providing assays that target different regions in the same sample.

The primary technologies historically used by researchers and clinicians to analyze gene activity in selected parts of a biological sample include immunohistochemistry, or IHC, which is used to estimate amounts of protein, and *in-situ* hybridization, or ISH, which is used to estimate amounts of RNA. Both IHC and ISH use fluorescent stains that provide the ability to identify typically four or less proteins or RNAs at a time based on assigned colors. The colors aid researchers in identifying where certain proteins or RNA may reside in a sample and provide a visual approximation of amounts. These techniques are generally limited however in their ability to only look at four proteins or RNAs at a time, and offer no ability to precisely quantify the amounts present in any given region or cell type. These limitations may lead to incomplete scientific conclusions as to the most relevant biological pathways in any given sample.

GeoMx DSP is designed to allow researchers to quantify a much larger number of genes or proteins spatially within multiple regions of interest across the landscape of a heterogeneous tissue section. Our GeoMx DSP instrument images slide-mounted or freshly cut tissue sections, allowing users to select regions of interest for subsequent quantification and analysis, or molecular profiling. The post-selection profiling or "read out," can be performed using either our nCounter Analysis System, or an Illumina NGS system.

We believe GeoMx DSP offers a number of advantages as compared to traditional spatial technologies, including the ability to profile both protein and RNA, the ability to multiplex large numbers of different proteins or RNA simultaneously in each selected region, flexibility on the selection of regions to analyze, and the ability to process 10 or more biological samples per day.

When GeoMx DSP was first made commercially available, researchers were only able to read out information on up to 96 biological targets from each of their GeoMx-selected regions of interest using nCounter. In August 2020, we added software capabilities and consumables which enabled GeoMx region of interest data to be read out using Illumina NGS systems, which significantly expanded the number of biological targets researchers can choose to analyze in selected regions. Linking GeoMx DSP with NGS also significantly expands our total potential market opportunity. As of December 31, 2020 there were approximately 17,000 Illumina NGS systems installed globally.

We have additional GeoMx DSP software capabilities and consumables under development that would further expand the number of biological targets that may be read out on NGS systems, such that gene expression levels of all potential targets, or the "whole transcriptome," in a region of interest may be quantified and analyzed. We expect to make these capabilities and related consumables commercially available in the first half of 2021.

GeoMx DSP Instrument and Software

Our GeoMx DSP instrument uses specialized optics to image slide-mounted tissue biopsies that have been prepared using our GeoMx DSP consumable reagents, as well as with IHC or ISH technology typically available in research or commercial laboratories. GeoMx DSP then allows a researcher to select regions of interest for analysis on screen, and then prepares samples from the selected regions of interest for molecular profiling. Like nCounter, GeoMx DSP is capable of supporting applications including gene expression and protein expression. GeoMx is also fully automated and easy-to-use, and is therefore ideal for a range of applications requiring efficient, high-precision, simultaneous quantitation of hundreds of target molecules across a set of biological samples.

The GeoMx DSP software enables the integration of the four color images acquired and the corresponding digital counts of the levels of RNA or protein as acquired using our nCounter Analysis System, or an Illumina NGS system. The GeoMx DSP data center uniquely combines system control to visualize whole tissue images at single cell resolution with automated or manual region of interest selection. The fully integrated workflow provides tracking of image data and corresponding profiling data, allowing users to easily go from data collection to data analysis. In addition to our internally developed software, in 2020 we announced a collaboration with Illumina, whereby we are jointly developing a GeoMx DSP application powered by Illumina's DRAGEN Bio-IT platform in order to facilitate the analysis of data generated by our customers using NGS read out on Illumina systems.

GeoMx DSP Consumables

The initial portfolio of GeoMx DSP consumables focuses on RNA and protein profiling for immuno-oncology applications, and protein analysis for neurobiology applications, targeted either for nCounter read out where a set of genes and a biological pathway may be better understood or for more targeted experiments, or for NGS readout in basic discovery applications where significantly greater numbers of genes may be of interest. GeoMx DSP consumable products are currently designed as standardized panel products that represent important content for certain disease areas, with an initial "core" panel offered for purchase, and an option for researchers to add content to that core depending on the area of interest or desired number of targets for analysis. Our GeoMx DSP assays generate high-quality results from challenging sample types, including FFPE and crude cell lysates.

Our significant GeoMx DSP consumable products and products under development include:

Enabled for nCounter readout

- *Immuno-Oncology Panels*. An immuno-oncology-focused panel menu that comprises up to 96 protein and RNA targets for analyzing the tumor and tumor microenvironment compartments in human and mouse tissue samples. The standard, or core, panel offering is comprised of 18 targets, and researchers have the option of adding over 30 additional targets for analysis focused on specific applications such as immuno-oncology drug target proteins, or human immune activation proteins, and 23 additional targets for analyzing mouse samples for pre-clinical applications. In addition, we offer RNA panel content to allow for the analysis of up to 84 targets for human immune pathways.
- *Neurobiology Panels*. A neurobiology-focused menu that comprises up to 40 protein targets to profile neural cells in human tissue. The standard, or core, panel offering comprises 20 targets, and researchers have the option of adding up to 20 additional targets for analysis focused on specific applications such as proteins implicated in Alzheimer's disease or Parkinson's disease.

Enabled for NGS readout

Targeted:

- *Cancer Transcriptome Atlas (CTA)*. An oncology and immuno-oncology focused panel is the first commercial GeoMx DSP product to enable read out using NGS. The CTA allows for a nearly 20-fold increase in RNA targets that may be profiled as compared to GeoMx DSP RNA panels designed for nCounter read out, providing a high-resolution spatial view of cancer biology. The CTA includes more than 1,800 genes that cover over 100 pathways critical to understanding tumor biology, the immune response and the tumor microenvironment. Biological content can be further customized with the addition of up to 60 user defined targets. The CTA panel is compatible with both fresh frozen and FFPE tissue, allowing scientists to work with a broad spectrum of samples in their research. As part of a full end-to-end solution, we are

providing library preparation reagents and NGS readout, a bioinformatics pipeline that links high-resolution, full-slide tissue images generated on GeoMx DSP with the massively parallel output of Illumina sequencers.

Universal:

- *Protein Assays.* A commercially available panel for NGS readout that includes greater than 50 protein targets. The currently available content covers applications in immuno-oncology and future content releases are planned to cover immunology and neuroscience. These assays will provide GeoMx CTA and WTA users complementary protein content designed for NGS read out. These new protein assays have been tested for performance on both FFPE and fresh frozen tissue. Our GeoMx DSP Protein Assays for NGS readout expanded the protein capabilities of GeoMx DSP from tens to now hundreds of validated proteins to be analyzed from a single tissue section with spatial resolution.
- *Whole Transcriptome Atlas (WTA).* Our WTA, a new GeoMx DSP consumable product candidate which we expect to make commercially available for use in human and mouse biological samples in the first half of 2021, is a universal panel that provides an unbiased, spatial view of approximately 18,000 RNA targets and is designed to be read out using NGS. The WTA unlocks new pathways to be explored by researchers and is designed to broaden GeoMx RNA profiling from oncology and immunology to include neuroscience, developmental biology and other diverse fields. WTA utilizes the same workflow and chemistry as our CTA.

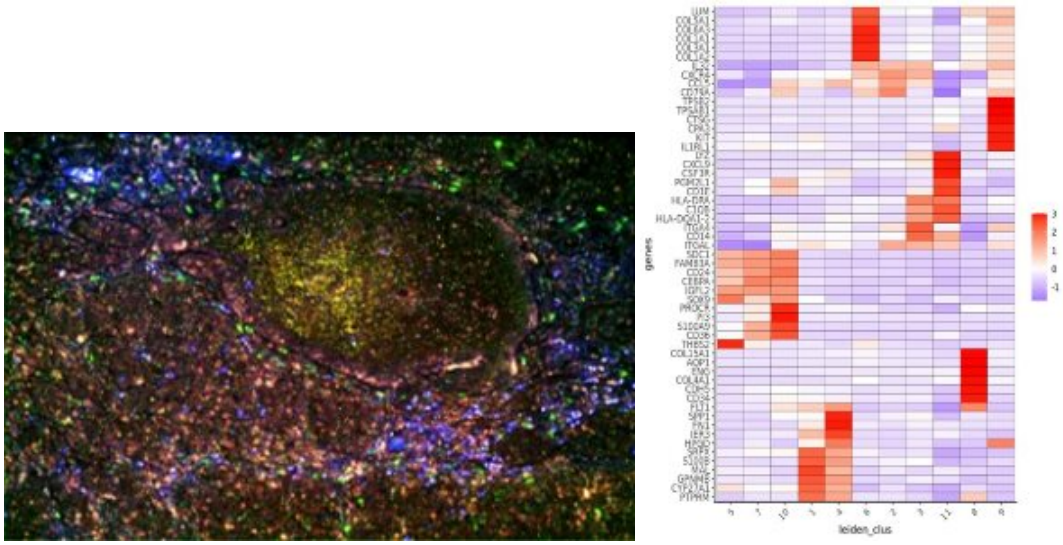
GeoMx DSP Technology Access Program (TAP)

Selected customers can access our GeoMx DSP through our TAP service and may select panels that read out on either nCounter or NGS. Through GeoMx DSP TAP, customers submit tissue samples to our Seattle facilities where they are imaged and profiled using our instruments in house and once completed, we provide a detailed report, which includes raw data and analyzed results back to the customer. We have successfully utilized GeoMx DSP TAP prior to and during our GeoMx DSP instrument and product commercial launches and believe it may be a leading indicator of potential future commercial demand for our products. To date, we have conducted over 430 TAP projects for approximately 200 customers.

Spatial Molecular Imager (SMI)

Our SMI is a new product platform currently under development. The SMI is designed to combine the spatial profiling of a large number of biological targets with high-resolution imaging. The SMI is expected to enable the analysis of up to 1,000 biological targets directly from single cells within morphologically intact tissue samples, as compared to GeoMx DSP which typically offers such profiling across regions containing multiple cells. We expect to commence a TAP service offering for our SMI product candidate in 2021, and we currently expect the instrument, consumables, and software associated with our SMI platform to be made commercially available in the second half of 2022.

SMI incorporates a proprietary version of our chemistry that was originally developed as part of our concluded collaboration with Lam Research, under which Lam provided us with $50.0 million in funding and we modified our core nCounter chemistry to be utilized in a NGS sequencing platform and related assays. Upon the conclusion of our Lam collaboration, in 2020 we began exploring applications for this newly developed chemistry in spatial biology, specifically whether we could conduct spatial analysis of increasingly smaller regions of interest, down to the individual cell and potentially sub-cellular level. Upon completing proof of principle research and development, we announced the expected development and commercialization timeline for SMI in December 2020.



The left image is a single field of view from RNA assay on FFPE melanoma tissue, showing ~600,000 RNA transcripts in ~6000 cells using the Spatial Molecular Imager. The right image is a heat map of differential RNA expression across unique cell types in the selected biological sample, as measured using the Spatial Molecular Imager.

Tissue biology takes place on several spatial scales including multi-cellular, single cell and sub-cellular levels. Our GeoMx DSP enables multi-cellular analysis at the whole transcriptome level to elucidate the behavior of populations of cells, such as those within a tumor or the tumor microenvironment. We are developing the SMI to address the unmet need for high-plex spatial analysis at single cell and sub-cellular resolution, which may be ideally suited for targeted applications such as creating cell atlases or studying cell-cell interactions. Our GeoMx DSP and the SMI platforms are synergistic, creating a spatial biology portfolio that spans the continuum from targeted to whole transcriptome analysis, and from multicellular resolutions down to single cell and sub cellular applications.

To date, our prototype SMI systems have imaged RNA from up to 1,000 genes simultaneously across thousands of individual cells in FFPE tissue. We believe in order to answer fundamental questions for the discovery, translational and clinical researcher in single cell biology, the ability to analyze the activity of at least 1,000 genes is the minimum panel requirement.

License Agreements

We have relied, and expect to continue to rely, on strategic collaborations and licensing agreements with third parties. For example, our base molecular barcoding technology is in-licensed from the Institute for Systems Biology. In addition, we have licensed technology related to the diffuse large B-cell lymphoma, or DLBCL, assay from the National Institutes of Health, and we rely on other license and supply arrangements for proprietary components which require us to pay royalties on the sale of our products. Other research customers are using our nCounter Analysis System to discover gene expression signatures that we believe could form the basis of future diagnostic products. In the future, we may consider these gene signatures for in-licensing.

Veracyte, Inc.

In December 2019, we entered into a LAPA and Service and Supply Agreements, or SSAs, with Veracyte. Pursuant to the LAPA, we completed a license of intellectual property and a sale of certain assets to Veracyte relating to our nCounter FLEX system for use in clinical diagnostic applications. Veracyte also acquired certain intellectual property rights and worldwide distribution rights relating to Prosigna and our LymphMark assay, and certain clinical diagnostic assay software modules that operate with the nCounter FLEX system. Pursuant to the LAPA, we provided Veracyte a worldwide exclusive license to market and sell clinical diagnostic tests developed for our nCounter FLEX platform for *in vitro* diagnostic use and for the development and commercialization of *in vitro* diagnostic tests, including *in vitro* diagnostic devices or laboratory developed tests, for use on the nCounter FLEX platform. In connection with the transaction, Veracyte agreed to assume certain liabilities associated with the assets purchased under the LAPA, including ongoing third-party royalty obligations relating to Prosigna and LymphMark. We also assigned to Veracyte our Amended and Restated Exclusive License Agreement with

Bioclassifier, LLC, effective July 7, 2010, as amended, which granted rights to certain intellectual property related to Prosigna. We also entered into a sublicense agreement with Veracyte relating to the Bioclassifier Agreement wherein we obtained certain non-exclusive rights relating to our rights to provide Prosigna to Veracyte on an ongoing basis and for other research or investigational purposes.

Upon consummation of the LAPA, Veracyte paid us total consideration of $50.0 million, consisting of (i) $40.0 million in cash and (ii) 376,732 shares of Veracyte common stock valued at $10.0 million. Pursuant to the LAPA, we are eligible to receive potential milestone payments of up to $10.0 million in the aggregate, to be paid upon the launch of additional clinical diagnostic tests by Veracyte for our nCounter FLEX platform.

Pursuant to the SSAs, we agreed to supply to Veracyte nCounter FLEX systems, and to manufacture and supply Prosigna kits, LymphMark kits and any additional clinical diagnostic tests that Veracyte may develop in the future for nCounter, for a period of at least four years subsequent to the transaction date. Pursuant to the SSAs, Veracyte will pay the designated transfer prices for nCounter FLEX systems, Prosigna kits, LymphMark kits and any other nCounter-based diagnostic tests developed by Veracyte.

Institute for Systems Biology

In 2004, we entered into an agreement with the Institute for Systems Biology pursuant to which the Institute granted to us an exclusive, subject to certain government rights, worldwide license, including the right to sublicense, to the digital molecular barcoding technology on which our nCounter Analysis System is based, including 13 patents and patent applications. Pursuant to the terms of the amended license agreement, we are required to pay the Institute for Systems Biology royalties on net sales of products sold by us, or our sublicensees, at a low single digit percentage rate, which was reduced by 50% in the third quarter of 2016 for the remainder of the license term due to the achievement of a cumulative sales threshold. Through December 31, 2020, we have paid aggregate royalties of $7.2 million under the license agreement. Unless terminated earlier in accordance with the terms of the amended license agreement, the agreement will terminate upon the expiration of the last to expire patent licensed to us. The Institute for Systems Biology has the right to terminate the agreement under certain situations, including our failure to meet certain diligence requirements or our uncured material breach of the agreement.

Collaborations

Lam Research Corporation

In August 2017, we entered into a collaboration agreement with Lam Research Corporation, or Lam, to develop a NGS sequencing platform and related assays. Under the terms of the agreement, Lam contributed an aggregate of $50.0 million towards the project. As of December 31, 2019, all committed development funding had been received from Lam, and as of December 31, 2020 all we received had been used in our continued development activities associated with our NGS sequencing platform and related assays.

In connection with the execution of the collaboration agreement, we issued Lam a warrant to purchase shares of our common stock at an exercise price for the warrant of $16.75 per share, with the number of underlying shares exercisable at any time proportionate to the amount of the $50.0 million commitment that had been provided by Lam. In January 2020, we issued an aggregate of 407,247 shares of our common stock to Lam upon the exercise of the warrant in full by Lam. In exchange for our waiver of certain lock-up restrictions, Lam agreed (i) to coordinate any sales of the shares with certain brokerage firms approved by us and (ii) not to sell more than 10% of the average daily trading volume of our common stock for the 30-day period immediately preceding any sale of the shares by Lam.

All intellectual property made or conceived solely by us pursuant to the collaboration will be owned by us and licensed to Lam solely for the purposes of the collaboration. All intellectual property made or conceived solely by Lam pursuant to the collaboration will be owned by Lam and, subject to certain restrictions on use with Lam competitors, licensed to us for the purposes of the collaboration and further development and commercialization of our products and technologies resulting from the collaboration in the field of molecular profiling. Jointly created intellectual property will be jointly owned, provided that neither we nor Lam use such jointly owned intellectual property in the other party's competitive field. Lam is eligible to receive certain single-digit percentage royalty payments from us on net sales of certain products and technologies developed under the agreement, if any such net sales are recorded. The maximum amount of royalties we may pay to Lam will be capped at $150.0 million (three times the amount of development funding actually provided by Lam). We retain exclusive rights to obtain regulatory approval, manufacture and commercialize any products.

Celgene Corporation

In March 2014, we entered into a collaboration agreement with Celgene to develop, seek regulatory approval for, and commercialize a companion diagnostic using the nCounter Analysis System to identify a subset of patients with DLBCL. In February 2018, we entered into an amendment with Celgene to our collaboration agreement in which Celgene agreed to provide us with additional funding for work intended to enable a subtype and prognostic indication for the test being developed under the agreement for Celgene's drug REVLIMID. In connection with this amendment, we agreed to remove the right to receive payments from Celgene in the event commercial sales of the companion diagnostic test do not exceed certain pre-specified minimum annual revenues during the first three years following regulatory approval. In addition, the amendment allows Celgene, at its election, to use trial samples with additional technologies for companion diagnostics.

Pursuant to our agreement with Celgene, we have been developing an *in vitro* diagnostic test, LymphMark, as a potential companion diagnostic to aid in identifying patients with DLBCL for treatment. In April 2019, Celgene announced that the trial evaluating REVLIMID for the treatment of DLBCL did not meet its primary endpoint. In May 2019, our collaboration agreement with Celgene was terminated effective July 2019, resulting in the recognition of substantially all of the remaining deferred revenue from the agreement. As a result, we do not intend to file a pre-market approval for LymphMark as a companion diagnostic for REVLIMID.

Merck & Co., Inc.

In May 2015, we entered into a clinical research collaboration agreement with Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc., or Merck, to develop an assay intended to optimize immune-related gene expression signatures and evaluate the potential to predict benefit from Merck's anti-PD-1 therapy, KEYTRUDA, in multiple tumor types. In October 2017, we were notified by Merck of the decision not to pursue regulatory approval of the companion diagnostic test for KEYTRUDA. As a result, in August 2018, we and Merck agreed to mutually terminate our development collaboration agreement, effective as of September 30, 2018, following the completion of certain close-out activities. As part of the mutual termination agreement, Merck granted us a non-exclusive license to certain intellectual property that relates to Merck's tumor inflammation signature.

Intellectual Property

We must develop and maintain protection on the proprietary aspects of our technologies in order to remain competitive. We rely on a combination of patents, copyrights, trademarks, trade secret and other intellectual property laws and confidentiality, material transfer agreements, licenses, invention assignment agreements and other contracts to protect our intellectual property rights.

As of December 31, 2020, we owned or exclusively licensed approximately 37 issued U.S. patents and approximately 26 pending U.S. patent applications, including provisional and non-provisional filings. We also owned or licensed approximately 270 pending and granted counterpart applications worldwide, including 119 country-specific validations of 18 European patents. The issued U.S. patents that we own or exclusively license are expected to expire between July 3, 2021 and February 6, 2033. We have either sole or joint ownership positions in all of our pending U.S. patent applications. Where we jointly own cases, we typically have negotiated license or assignment provisions to obtain exclusive rights. For our material nCounter Analysis System we are the exclusive licensee. We also generally protect our newly developed intellectual property by entering into confidentiality agreements that include intellectual property assignment clauses with our employees, consultants and collaborators. Our patent applications generally relate to the following main areas:

- our nCounter Analysis System or GeoMx DSP biology, chemistry, methods and hardware;
- specific applications for our nCounter Analysis System or GeoMx DSP technology;
- our gene expression markers, methods and gene signatures for recurrence and drug response in certain forms of cancer;
- methods and systems for the processing and analysis of spatial profiling and sequencing data;
- biological and chemical compositions, methods and hardware for enzyme and amplification free sequencing; and
- biological and chemical compositions, methods and hardware for multiplexed detection and quantification of protein and/or nucleic acid expression in a defined region of a tissue or cell.

We intend to file additional patent applications in the United States and abroad to strengthen our intellectual property rights; however, our patent applications may not result in issued patents, and we cannot assure investors that any patents that have issued or might issue will protect our technology. We have received notices of claims of potential infringement from third parties and may receive additional notices in the future. When appropriate, we have taken a license to the intellectual property

rights from such third parties. For additional information, see the section of this report captioned “Risk Factors — Risks Related to Intellectual Property.”

We own a number of trademarks and develop names for our new products and as appropriate secure trademark protection for them, including domain name registration, in relevant jurisdictions.

Research and Development

We have committed, and expect to continue to commit, significant resources to developing new technologies and products, improving product performance and reliability and reducing costs. We are continuously seeking to improve our product platforms, including the technology, software, accessibility and overall capability. We also seek to develop additional research consumable content, new product platforms and new product capabilities. We have assembled experienced research and development teams at our greater Seattle, Washington area facilities with the scientific, engineering, software and process talent that we believe is required to successfully grow our business. As of December 31, 2020, we had 166 employees in research and development.

Sales and Marketing

We began selling nCounter Analysis Systems to researchers in 2008 and our GeoMx DSP systems in 2019. We sell our instruments and related products primarily through our own sales force in North America and through a combination of direct and distributor channels in Europe, the Middle East, Asia Pacific and South America. We have agreements with 33 distributors, each of which is specific to a certain territory. In the event a distributor does not meet minimum performance requirements, we may terminate the distribution agreement or convert from an exclusive to non-exclusive arrangement within the territory, allowing us to enter into arrangements with other distributors for the territory.

For additional information regarding geographic distribution of revenue, see Note 3 of the Notes to Consolidated Financial Statements of this report. Revenues generated from our Lam collaboration agreement represented 4%,13% and 17% of our total revenue for the years ended December 31, 2020, 2019 and 2018, respectively.

Our sales and marketing efforts for instrumentation and in the life sciences research market are targeted at department heads, research or clinical laboratory directors, principal investigators, core facility directors and research scientists and pathologists at leading academic institutions, biopharmaceutical companies, publicly and privately-funded research institutions and contract research organizations. We seek to increase awareness of our products among our target customers through direct sales calls, trade shows, seminars, academic conferences, web presence and other forms of internet marketing.

Our instruments require a significant capital investment, and our sales process involves numerous interactions with multiple individuals within an organization, and often includes in-depth analysis by potential customers of our products, performance of proof-of-principle studies, preparation of extensive documentation and a lengthy review process. As a result of these factors, the significant capital investment required in purchasing our instruments and the budget cycles of our customers, the time from initial contact with a customer to our receipt of a purchase order can vary significantly and be up to 12 months or longer. Given the length and uncertainty of our sales cycle, we have in the past experienced, and likely will in the future experience, fluctuations in our instrument sales on a period-to-period basis.

We have continued to invest in our commercial channel to increase our reach and productivity. For example, in 2019, we added certain roles to focus specifically on the launch efforts associated with our GeoMx DSP system. We believe these investments help to drive the growth of our installed instrument base, and the continued utilization of our consumables by our installed base of instrument users.

Manufacturing and Suppliers

We use third-party contract manufacturers to produce our instruments and certain raw materials for our consumables. We build our consumables, including our Panels, Custom CodeSets and reagent packages at our facilities in the greater Seattle, Washington area.

Instruments

We outsource manufacturing of our instruments. Precision System Science, Co., Ltd. of Chiba, Japan, or PSS, is our sole source supplier for the nCounter Prep Station. Korvis Automation Inc., or Korvis, is our sole source supplier for our nCounter Digital Analyzers and our GeoMx DSP instrument at its facility in Corvallis, Oregon. Paramit Corporation, or Paramit, is our sole source supplier for our nCounter SPRINT Profiler at its facility in Morgan Hill, California.

The facilities at which our instruments are built have been certified to ISO 13485:2003 standards. Our contracts with these instrument suppliers do not commit them to carry inventory or make available any particular quantities. Under the terms of our instrument supply agreements, we are required to place binding purchase orders for instruments that will be delivered to

us by the supplier three to six months from the date of placement of the purchase order. Although qualifying alternative third-party manufacturers could be time consuming and expensive, our instruments' design is similar to that of other instruments and we believe that alternatives would be available if necessary. However, if our instrument suppliers terminate our relationship with them or if they give other customers' needs higher priority than ours, then we may not be able to obtain adequate supplies in a timely manner or on commercially reasonable terms.

Consumables

We manufacture our consumables in our greater Seattle, Washington area facilities, certain of which have been certified to ISO 13485:2003 standards. In the past several years, we have expanded our manufacturing capacity through additional leased space as well as by relocating certain research and development functions and converting the space to incremental manufacturing labs and offices. In the future, should additional space become necessary, we believe that there will be space available near our existing facilities that we believe we can secure; however, we cannot predict that this space will be available if and when it is needed.

We rely on a limited number of suppliers for certain components and materials used in the manufacture of our consumables. Some of these components are sourced from a single supplier. For example, Cidra Precision Services, LLC, of Wallingford, Connecticut, part of IDEX Health & Science, is the sole supplier of the microfluidic cartridge for our nCounter SPRINT Profiler. For some components, we have qualified second sources for several of our critical reagents, including oligonucleotides, adhesives and dyes. We believe that having dual sources for our components helps reduce the risk of a production delay caused by a disruption in the supply of a critical component. We continue to pursue qualifying additional suppliers, but cannot predict how expensive, time-consuming or successful these efforts will be. If we were to lose one or more of our suppliers, it may take significant time and effort to qualify alternative suppliers.

Competition

In the life sciences research market, we compete with companies such as Agilent Technologies, Akoya Biosciences, Bio-Rad, Bio-Techne, Fluidigm, Illumina, Qiagen, Thermo Fisher Scientific and 10x Genomics. These competitors and others have products for gene and protein expression analysis and spatial biology that compete in certain segments of the market in which we sell our products. In addition, there are a number of new market entrants in the process of developing novel technologies for the life sciences market, including those that may compete with GeoMx DSP or our SMI.

We believe that we have multiple competitive advantages in the research market, including the automated nature of our systems with simple, rapid and efficient workflow that requires very limited human intervention or labor; the multiplexing capability of our technology to analyze significantly more target molecules in a single tube without amplification, representing multiple biological pathways; the ability to analyze combinations of RNA and proteins; compatibility with many sample types, including difficult samples such as FFPE; and the ability to analyze small sample inputs, in some cases down to a single cell, from a wide variety of sample types.

While we believe that we compete favorably based on the factors described above, many of our competitors enjoy other competitive advantages over us, including:

- greater name and brand recognition, financial and human resources;
- broader product lines;
- larger sales forces and more established distributor networks;
- substantial intellectual property portfolios;
- larger and more established customer bases and relationships; and
- better established, larger scale and lower cost manufacturing capabilities.

For additional information, see the section of this report captioned "Risk Factors - The life sciences research market is highly competitive. If we fail to compete effectively, our business and operating results will suffer."

Human Capital

Our employees are guided by our mission to map the universe of biology. Our core values of grit, authenticity, ambition, ingenuity and commitment to customers serve to guide us on our path toward achieving our mission. Our core values set the foundation for our attitudes and actions, how we conduct our business, interact with each other and our customers and evaluate employee performance.

Employees

As of December 31, 2020, we had 579 employees, of which 168 work in manufacturing, 173 in sales, marketing and business development, 166 in research and development and 72 in general and administrative. None of our U.S. employees are

represented by a labor union or are the subject of a collective bargaining agreement. As of December 31, 2020, of our 579 employees, 516 were employed in the United States and 63 were employed outside the United States.

Talent Acquisition and Development and Employee Engagement

Our employees play a key role in our ability to serve our customers and achieve our mission and we strive to attract, empower and retain high quality talent that is inspired, diverse and driven. To attract and retain top talent, we strive to create opportunities for our employees to grow and develop in their careers and ensure they are supported by competitive salaries and a comprehensive benefits program.

We believe employee career development is an investment in our employees' skills and our future. We offer career development opportunities such as educational reimbursement, onsite training to enhance job-related skills, management development programs and opportunities to attend job related conferences and seminars. Additionally, we have an annual formal employee review program which standardizes performance evaluation across all areas in the organization and aids in supporting our employees' career and personal development, which ultimately contributes to achieving our mission.

We believe it is important to encourage open and direct communication at all levels in our organization and we regularly use employee experience and feedback surveys to understand whether our human capital policies are effective and where we can improve.

Compensation and Benefits

We believe we provide competitive and comprehensive financial compensation and benefits for our employees and our programs are designed to meet our employees' needs. In addition to salaries, these programs (which may vary by country or region) include new employee equity grants, additional discretionary equity awards, including a discretionary annual equity grant, discretionary merit-based annual bonuses, a voluntary employee stock purchase program, a 401(k) plan which includes partial employer matching contributions, healthcare and insurance benefits, health savings and flexible spending accounts, flexible paid time off, family leave, employee assistance programs, an educational reimbursement program and health and wellness programs. In addition, we believe our employees can make a meaningful difference in their local communities and we offer all employees paid time off to volunteer in community involvement activities of their choice.

COVID-19 Pandemic Safety and Benefits

In response to the COVID-19 pandemic, we implemented several changes that we determined were in the best interest of our employees, customers, the communities we operate in and which comply with government and health and safety regulations. We have created an internal committee of senior management leaders, including our director of employee health and safety, that meets a minimum of once a week and is focused on creating and maintaining a safe and healthy workplace for all employees, our customers and the communities in which we operate during the COVID-19 pandemic. We have encouraged all employees who are able to work remotely to do so, and this significantly reduced the number of employees onsite. For our employees who are deemed "essential" for onsite work (full or part-time), we have implemented several new safety protocols and made significant investments in workplace modification to help promote employee distancing and avoid general employee density issues, as well as establishing on site health check-in protocols for all facilities and ensuring employees are provided with personal protective equipment. Essential onsite workers have been defined as those that contribute directly to manufacturing of our products as well as those that support certain research and development activities associated with new and existing products and technologies.

We have also implemented several new policies and benefits including offering paid emergency leave to any employee that is required to quarantine or contracts COVID-19. For example, during the initial phases of the pandemic, we offered an onsite pay bonus to those employees deemed necessary to perform essential duties at our facilities, including manufacturing, research and development and certain other overhead operations focused on maintaining workplace safety and implementing new work protocols during the pandemic. Additionally, we have offered enhanced expense reimbursement programs to offset higher costs of commuting in order for our essential onsite employees to remain safe and limit exposure while commuting to and from work.

Diversity, Equity and Inclusion

We believe racism and discrimination are unacceptable. We are committed to building and maintaining a diverse and inclusive business and have diversity, equity and inclusion programs in place to help us achieve our commitment.

We seek diversity, equity and inclusion at every level in our organization. Our board of directors includes directors from various backgrounds, industries, skills and experience. Our senior leadership team includes leaders with diverse skills, experience, racial background and genders. Our employees come from numerous countries and various backgrounds and we strive to provide a diverse and inclusive environment.

We have active programs in place and continue to focus on extending our diversity, equity and inclusion initiatives across our entire workforce. As part of our program, we seek to make diversity, equity and inclusion a focus for our recruiting and hiring practices, including by ensuring we have diverse representations in our recruiting pool and interview panel. To further our commitment to create an inclusive and diverse culture, we engaged a third-party diversity, equity and inclusion consultant to assist us in our commitment.

We currently have three employee resource groups, or ERGs, that focus on communities including women, people of color and LGBTQ+. We believe these ERGs are guided by our priorities and values and provide a way for employees with common interests to connect, obtain professional development and participate in community outreach opportunities. We may expand upon our ERG offerings in the future.

In 2020, we joined Washington Employers for Racial Equity, or WERE, which is a new statewide coalition dedicated to racial equity and opportunity for all. As a coalition member, we have signed a Commitment to Progress, committing to own our part of the problem and setting specific improvement goals. As members of the coalition, we will listen, learn, partner, invest and work toward solutions in our own company and our communities.

Government Regulation

Medical Device Regulation

United States

In the United States, medical devices, including *in vitro* diagnostics, are subject to extensive regulation by the U.S. Food and Drug Administration, or FDA, under the Federal Food, Drug, and Cosmetic Act, or FDC Act, and its implementing regulations, and other federal and state statutes and regulations. The laws and regulations govern, among other things, medical device development, testing, labeling, storage, premarket clearance or approval, advertising and promotion and product sales and distribution.

A medical device is an instrument, apparatus, implement, machine, contrivance, implant, *in vitro* reagent, or other similar or related article, including any component part or accessory, which is (1) intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, in man or other animals, or (2) intended to affect the structure or any function of the body of man or other animals, and which does not achieve any of its primary intended purposes through chemical action within or on the body of man or other animals and which is not dependent upon being metabolized for the achievement of any of its primary intended purposes. *In vitro* diagnostics are a type of medical device, and are tests that can be used in the screening or diagnosis and/or detection of diseases, conditions or infections, including, without limitation, the presence of certain chemicals, genetic or other biomarkers.

Medical devices to be commercially distributed in the United States must receive from the FDA either clearance of a premarket notification, or 510(k), or premarket approval of a premarket approval application, or PMA, pursuant to the FDC Act prior to marketing, unless subject to an exemption. Devices deemed to pose relatively low risk are placed in either Class I or II. Placement of a device into Class II generally requires the manufacturer to submit to the FDA a 510(k) seeking clearance for commercial distribution; this is known as the 510(k) clearance process. Class III devices that were on the market before May 28, 1976 and for which FDA has not yet required submission of PMAs are also required to submit a 510(k) to FDA. Most Class I devices are exempted from this premarket submission requirement. Devices deemed by the FDA to pose the greatest risk, such as life-sustaining, life-supporting or implantable devices and some diagnostic tests, are placed into Class III requiring PMA approval. Devices deemed not substantially equivalent to a previously 510(k)-cleared device or novel devices for which no predicate device exists are placed into Class III, but may be reclassified by FDA into Class I or Class II upon the submission by the manufacturer of a *de novo* reclassification application. A clinical trial is almost always required to support a PMA application or *de novo* application, and in many cases is required for a 510(k) application. All clinical studies of investigational devices must be conducted in compliance with applicable FDA or Institutional Review Board, or IRB, regulations.

510(k) Clearance Pathway. To obtain 510(k) clearance, a manufacturer must submit a premarket notification demonstrating to the FDA's satisfaction that the proposed device is substantially equivalent in intended use and in technological characteristics to a previously 510(k) cleared device or a device that was in commercial distribution before May 28, 1976, for which the FDA has not yet called for submission of PMA applications, or to a device that has received *de novo* authorization. The previously cleared device is known as a predicate. The FDA's 510(k) clearance pathway usually takes from six to 12 months, but it can take significantly longer, particularly for a novel type of product. The FDA will also not begin a substantive review of the filing until it verifies the application contains all necessary information required to commence a substantive review. If the application does not contain all required information, the FDA will not file the application and return it to the submitter, highlighting the deficiencies in the application.

After a device receives 510(k) clearance, any modification that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, requires a new 510(k) clearance or could require a PMA approval. The

FDA requires each manufacturer to make this determination in the first instance, but the FDA can review any such decision. If the FDA disagrees with a manufacturer's decision not to seek a new 510(k) clearance, the agency may require the manufacturer to seek 510(k) clearance or PMA approval. If the modified device has been commercialized, the FDA also can require the manufacturer to cease marketing and/or recall the modified device until 510(k) clearance or PMA approval is obtained.

PMA Approval Pathway. The PMA approval pathway requires a demonstration of reasonable assurance of safety and effectiveness of the device to the FDA's satisfaction. The PMA approval pathway is costly, lengthy and uncertain.

A PMA application must provide extensive preclinical and clinical trial data and also information about the device and its components regarding, among other things, device design, manufacturing and labeling. As part of the PMA review, the FDA will typically inspect the manufacturer's facilities for compliance with Quality System Regulation, or QSR, requirements, which impose stringent testing, control, documentation and other quality assurance procedures.

Upon submission, the FDA determines if the PMA application is sufficiently complete to permit a substantive review, and, if so, the application is accepted for filing. The FDA then commences an in-depth review of the PMA application. The PMA approval process typically takes one to three years, but may last longer. The review time is often significantly extended as a result of the FDA asking for more information or clarification of information already provided. The FDA may approve a PMA with post-approval conditions that the FDA believes are necessary to ensure the safety and effectiveness of the device including, among other things, post-approval studies and restrictions on labeling, promotion, sale and distribution. Failure to comply with the conditions of approval can result in material adverse enforcement action, including the loss or withdrawal of the approval or placement of restrictions on the sale of the device until the conditions are satisfied. Even after approval of a PMA, a new PMA or PMA supplement may be required in the event of a modification to the device, its labeling or its manufacturing process. Supplements to a PMA may require the submission of the same type of information required for an original PMA, except that the supplement is generally limited to that information needed to support the proposed change from the product covered by the original PMA.

De Novo Pathway. If no predicate can be identified, the product is automatically classified as Class III, requiring a PMA. However, the FDA can reclassify, or use "*de novo* classification" for, a device for which there was no predicate device if the device is low or moderate risk. A device company can also submit a *de novo* application at the outset, rather than submitting a 510(k) application for its particular product. When granting a *de novo* application the FDA will establish special controls that other applicants for the same device type must satisfy, which often includes labeling restrictions and data requirements. Subsequent applicants can rely upon the *de novo* product as a predicate for a 510(k) clearance. The *de novo* route has been used for many *in vitro* diagnostic products.

Postmarket. After a device is placed on the market, numerous regulatory requirements apply. These include: the quality manufacturing requirements set forth in the QSR, labeling regulations, the FDA's general prohibition against promoting products for unapproved or "off label" uses, registration and listing, the Medical Device Reporting, or MDR, regulation (which requires that manufacturers report to the FDA if their device may have caused or contributed to a death or serious injury or malfunctioned in a way that would likely cause or contribute to a death or serious injury if the malfunction were to recur), and the Reports of Corrections and Removals regulation (which requires manufacturers to report recalls and field actions to the FDA if initiated to reduce a risk to health posed by the device or to remedy a violation of the FDC Act).

The FDA enforces these requirements by unannounced inspection, market surveillance and other means. If the FDA finds a violation, it can institute a wide variety of enforcement actions, ranging from an untitled regulatory letter or a warning letter, to more severe sanctions such as fines, injunctions and civil penalties; recall or seizure of products; operating restrictions, partial suspension or total shutdown of production; refusing requests for 510(k) clearance or PMA approval of new products; withdrawing 510(k) clearance or PMA approvals already granted; and criminal prosecution. For additional information, see the section of this report captioned "Risk Factors — Risks Related to Government Regulation."

Products Labeled for Research Use Only (RUO). RUO products are not regulated as medical devices and are therefore not subject to the QSR requirements enforced by the FDA. The FDA instead imposes labeling and distribution requirements with respect to RUO products. The products must bear the statement: "For Research Use Only. Not for Use in Diagnostic Procedures." RUO products cannot make any claims related to safety, effectiveness or diagnostic utility, or clinical applications, and they cannot be intended for human clinical diagnostic use. In November 2013, the FDA issued a final guidance on products labeled RUO, which, among other things, reaffirmed that a company may not make any clinical or diagnostic claims about an RUO product, stating that merely including an RUO labeling statement will not necessarily render the device exempt from the FDA's clearance, approval, or other regulatory requirements if the totality of circumstances surrounding the distribution of the product indicates that the manufacturer knows its product is being used by customers for diagnostic uses or the manufacturer intends such as use. If FDA were to determine, based on the totality of circumstances, that our RUO products are intended for diagnostic purposes, they would be considered medical devices that will require clearance or approval prior to commercialization. We continue to monitor the changing legal and regulatory landscape to ensure our compliance with any applicable rules, laws and regulations.

Dual-Use Instruments. Dual-use instruments are subject to FDA regulation since they are intended, at least in part, for use by customers performing clinical diagnostic testing. In November 2014, FDA issued a guidance that described FDA's approach to regulating molecular diagnostic instruments that combine in a single molecular instrument both approved/cleared device functions and device functions for which approval/clearance is not required.

Laboratory Developed Tests. Laboratory Developed Tests, or LDTs, are developed, validated and used within a single laboratory. In the past, the FDA generally exercised its enforcement discretion for LDTs and did not require clearance or approval prior to marketing. On October 3, 2014, FDA issued two draft guidances that proposed to actively regulate LDTs using a risk-based approach, and would have required 510(k)s or PMAs for certain "moderate" or "high" risk devices. However, in late November 2016, FDA announced that it would not be finalizing the 2014 draft LDT Guidances. More recently, the FDA has issued warning letters to genomics labs for illegally marketing genetic tests that claim to predict patients' responses to specific medications, noting that the FDA has not created a legal "carve-out" for LDTs and retains discretion to take action when appropriate, such as when certain genomic tests raise significant public health concerns. As manufacturers develop more complex genetic tests and diagnostic software, the FDA may increase its regulation of LDTs. In August 2020, the Department of Health and Human Services (HHS) announced rescission of guidances and other informal issuances of the FDA regarding premarket review of LDTs absent notice-and-comment rulemaking, stating that, absent notice-and-comment rulemaking, those seeking approval or clearance of, or an emergency use authorization, for an LDT may nonetheless voluntarily submit a premarket approval application, premarket notification or an EUA request, respectively, but are not required to do so. The impact of this HHS recission policy, including whether or how this policy will be implemented, under the current administration and any changes in FDA regulation on us and our industry is unclear. Any restriction on LDTs or IVDs by the FDA, HHS, Congress, or state regulatory authorities may decrease the demand for our products. The adoption of new restrictions on RUOs, whether by the FDA or Congress, could adversely affect the demand for our specialized reagents and instruments.

Companion Diagnostics. In August 2014, FDA issued a companion diagnostics final guidance stating that if the device is essential to the safety or efficacy of the drug, FDA will generally require approval or clearance for the device at the time when FDA approves the drug. Most companion diagnostics will require PMA approval. FDA has also issued draft guidances on principles for co-development of an *in vitro* companion diagnostic device with a therapeutic product in July 2016 and on developing and labeling *in vitro* companion diagnostic devices for a specific group or class of oncology therapeutic products in December 2018.

International

To the extent we decide to seek regulatory marketing authorization for certain of our products in countries outside of the United States, we or our partners, or collaborators, will need to obtain regulatory marketing authorization for our products for the intended use in the jurisdiction where such products will be marketed. Regulatory clearance or approval in one jurisdiction does not mean that we will be successful in obtaining regulatory marketing authorization in other jurisdictions where we conduct business. Sales of such products outside the United States will likely be subject to foreign regulatory requirements, which can vary greatly from country to country, as well as FDA regulations on export of medical devices. The European Commission has adopted numerous directives and standards that address regulation of the design, manufacture, labeling, clinical studies and post-market vigilance for medical devices. Under the centralized authorization procedure, devices that comply with the requirements of a relevant directive will be entitled to bear the CE conformity marking, indicating that the device conforms to the essential requirements of the applicable directives and, accordingly, can be marketed throughout the European Union and European Economic Area member states. The European Medical Device Regulation (MDR), which will replace Europe's Medical Device Directive (MDD), will be effective on May 26, 2021. Additionally, the *In Vitro* Diagnostic Regulation (IVDR 2017/746), which addresses several weaknesses of the *In Vitro* Diagnostic Directive (IVDD 98/79/EC), will apply starting on May 26, 2022.

In September 2012, Prosigna was CE-marked for compliance with IVDD 98/79/EC for use in conjunction with a diagnostic version of our nCounter Analysis System in the EU to assess a breast cancer patient's risk of distant recurrence.

Reimbursement

Our nCounter FLEX Analysis Systems are purchased by clinical laboratories, which use our diagnostic products as the basis for testing patients' samples. These customers can use our products to enable commercial testing services, and generate revenue for their laboratories for this service. In order to collect payment for testing services based upon our diagnostic products, clinical laboratory customers may bill third parties, including public and private payors. The demand for our diagnostic products will depend indirectly upon the ability for our customers to successfully bill for and receive reimbursement from third-party payors for the clinical testing services based on our products.

United States

In the United States, clinical laboratory revenue is derived from various third-party payors, including insurance companies, health maintenance organizations, or HMOs, and government healthcare programs, such as Medicare and Medicaid.

Clinical laboratory testing services are paid through various methodologies when covered by third-party payors, such as prospective payment systems and fee schedules. For any new clinical test, payment for the clinical laboratory service requires a decision by the third-party payor to cover the particular test, the establishment of a reimbursement rate for the test and the identification of one or more Current Procedural Terminology, or CPT, codes that accurately describe the test.

For Medicare, the reimbursement rates for individual tests are established under the Clinical Laboratory Fee Schedule (local fee schedules for outpatient clinical laboratory services) or the Physician Fee Schedule, depending on the amount of physician work involved in the test. Molecular diagnostic tests are paid under the Clinical Laboratory Fee Schedule. For additional information, see the section of this report captioned "Risk Factors — Risks Related to Government Regulation."

Outside the United States

In Europe, governments are primarily responsible for reimbursing diagnostic testing services. A relatively small portion of the market is made up of private payors and cash-pay patients. The primary barrier of adoption of a new *in vitro* diagnostic test is often reimbursement, and public reimbursement can take several years to achieve, depending on the country. Public reimbursement for genomic testing for breast cancer is available in Canada, Ireland, France, Greece, Switzerland, Denmark and the United Kingdom. Selected private coverage for testing is available in the United Kingdom, Germany, Spain, France, the UAE and Hungary. Reimbursement approval in some countries, such as Spain and Italy, is managed at the regional level. Israel is a market in which genomic testing for breast cancer is widely reimbursed by all four major Sick Funds, the third-party payors that cover a substantial majority of the population. We will tailor our approaches to reimbursement and market access throughout the rest of the world as appropriate as we evaluate new product and service offerings.

Other Government Regulations

Our operations in the United States and abroad are subject to various fraud and abuse laws, including, without limitation, the federal anti-kickback statute and state and federal marketing compliance laws in the United States. These laws may impact our operations directly, or indirectly through our contractors, agents or customers, and may impact, among other things, our sales, marketing and education programs. In addition, we may be subject to various privacy regulations by both the federal government and the states in which we conduct our business. The laws that may affect our ability to operate include the following federal laws and their counterparts at the state level:

- the Federal Anti-kickback Statute and state anti-kickback prohibitions;
- the Federal physician self-referral prohibition, commonly known as the Stark Law, and state equivalents;
- the Federal Health Insurance Portability and Accountability Act of 1996, as amended, commonly known as HIPAA;
- state privacy laws, such as the California Consumer Privacy Act and California Privacy Rights Act;
- the Medicare civil money penalty laws and exclusion requirements;
- the Federal False Claims Act, civil and criminal penalties and state equivalents;
- the Foreign Corrupt Practices Act, which applies to our international activities;
- the Physician Payments Sunshine Act; and
- the European Union's General Data Privacy Regulations, or GDPR.

Environmental Matters

Our operations require the use of hazardous materials (including biological materials) which subject us to a variety of federal, state and local environmental and safety laws and regulations. Some of the regulations under the current regulatory structure provide for strict liability, holding a party potentially liable without regard to fault or negligence. We could be held liable for damages and fines as a result of our, or others', business operations should contamination of the environment or individual exposure to hazardous substances occur. We cannot predict how changes in laws or development of new regulations will affect our business operations or the cost of compliance.

Where You Can Find Additional Information

We make available free of charge through our investor relations website, www.nanostring.com, our annual reports, quarterly reports, current reports, proxy statements and all amendments to those reports as soon as reasonably practicable after such material is electronically filed or furnished with the SEC. These reports may also be obtained without charge by contacting Investor Relations, NanoString Technologies, Inc., 530 Fairview Avenue North, Seattle, Washington 98109, e-mail: investorrelations@nanostring.com. Our Internet website and the information contained therein or incorporated therein are not intended to be incorporated into this Annual Report on Form 10-K. In addition, the SEC maintains an Internet site that contains reports, proxy and information statements and other information regarding reports that we file or furnish electronically with them at www.sec.gov.

Item 1A. Risk Factors

You should carefully consider the following risk factors, in addition to the other information contained in this report, including the section of this report captioned "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and related notes. If any of the events described in the following risk factors and the risks described elsewhere in this report occurs, our business, operating results and financial condition could be seriously harmed. This report on Form 10-K also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of factors that are described below and elsewhere in this report.

Risks Related to Our Business and Strategy

We face risks related to health epidemics and other outbreaks, such as COVID-19, which could significantly disrupt our operations and could have a material adverse impact on us.

Our business could be adversely impacted by the effects of health epidemics and other outbreaks. For example, in December 2019, a novel strain of coronavirus, SARS-CoV-2, the causative agent of coronavirus disease 2019, or COVID-19, was first reported. Since then, COVID-19 has spread across the globe and is affecting worldwide economic activity, including in the United States and European and Asia-Pacific countries. Quarantines, shelter-in-place and similar government orders have been imposed in many of the regions in which we have material operations or sales, including the greater Seattle, Washington area. As a result, our business activities originating from affected areas, including research and development sales, manufacturing and supply chain related activities, have been, and could continue to be, adversely affected. Disruptions have included:

- the temporary closure of our manufacturing facilities and those used in our supply chain processes;
- restrictions on the export or shipment of our products;
- unavailability of components and materials used in our products;
- significant cutback of ocean container delivery;
- business closures in impacted areas;
- reduced demand, research grants, and business activities of our customers due to the impact of COVID-19;
- limitations in employee resources, including because of stay-at-home orders, sickness of employees or their families or the desire of employees to avoid contact with large groups of people; and
- restrictions on our employees' and other service providers' ability to travel, to meet with customers and install and train customers on our systems.

The global spread of COVID-19 also has created significant macroeconomic uncertainty, volatility and disruption, which may adversely affect our and our customers' and suppliers' liquidity, cost of capital and ability to access the capital markets.

COVID-19 materially impacted our 2020 results and we anticipate that COVID-19 will continue to impact our business due to the factors discussed above. The extent to which COVID-19 impacts our results will depend on future developments, which are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity of the virus and the actions to contain it or treat its impact, among others. We cannot at this time quantify or forecast the business impact of COVID-19, and there can be no assurance that the COVID-19 pandemic will not have a material and adverse effect on our business, operating results and financial condition. In addition, the COVID-19 pandemic increases the likelihood and potential severity of other risks described in the "Risk Factors" section. Although national, state and local governments have introduced relief measures intended to alleviate the impact of COVID-19-related disruptions, we may not qualify for or benefit from such measures.

We have incurred losses since we were formed and expect to incur losses in the future. We cannot be certain that we will achieve or sustain profitability.

We have incurred losses since we were formed and expect to incur losses in the future. We incurred net losses of $110.1 million, $40.7 million and $77.4 million for the years ended December 31, 2020, 2019 and 2018, respectively. As of December 31, 2020, we had an accumulated deficit of $542.0 million. We expect that our losses will continue for at least the next several years as we will be required to invest significant additional funds toward ongoing development and commercialization of our technology. We also expect that our operating expenses will continue to increase as we grow our business, and there can be no assurance that our revenue and gross profit will increase sufficiently such that our net losses decline, or we attain profitability, in the future. Our ability to achieve or sustain profitability is based on numerous factors, many of which are beyond our control, including the market acceptance of our products, future product development and our market penetration and margins. We may never be able to generate sufficient revenue to achieve or sustain profitability.

Our financial results may vary significantly from quarter to quarter which may adversely affect our stock price.

Investors should consider our business and prospects in light of the risks and difficulties we expect to encounter in the uncertain and rapidly evolving markets in which we compete. Because these markets are evolving, predicting their future growth and size is difficult. We expect that our visibility into future sales of our products, including volumes, prices and product mix between instruments and consumables, and the amount and timing of payments pursuant to collaboration agreements will continue to be limited and could result in unexpected fluctuations in our quarterly and annual operating results.

Numerous other factors, many of which are outside our control, may cause or contribute to significant fluctuations in our quarterly and annual operating results, including the ongoing impact of the COVID-19 pandemic on our business operations and financial results. These fluctuations may make financial planning and forecasting difficult. In addition, these fluctuations may result in unanticipated changes in our available cash, which could negatively affect our business and prospects. Factors that may contribute to fluctuations in our operating results include many of the risks described in this section. Also, one or more of such factors may cause our revenue or operating expenses in one period to be disproportionately higher or lower relative to the others. Furthermore, our instruments involve a significant capital commitment by our customers and accordingly involve a lengthy sales cycle. We may expend significant effort in attempting to make a particular sale, which may be deferred by the customer or never occur. Accordingly, comparing our operating results on a period-to-period basis may not be meaningful, and investors should not rely on our past results as an indication of our future performance. If such fluctuations occur or if our operating results deviate from our expectations or the expectations of securities analysts, our stock price may be adversely affected.

If we do not achieve, sustain or successfully manage our anticipated growth, our business and growth prospects will be harmed.

We have experienced significant revenue growth in recent periods and we may not achieve similar growth rates in the future. Investors should not rely on our operating results for any prior periods as an indication of our future operating performance. If we are unable to maintain adequate revenue growth, our financial results could suffer and our stock price could decline. Furthermore, growth will place significant strains on our management and our operational and financial systems and processes. For example, the recent commercial launch of our GeoMx DSP system is a key element of our growth strategy and will require us to hire and retain additional sales and marketing personnel and resources. If we do not successfully generate demand for GeoMx DSP or other new product offerings, or manage our anticipated expenses accordingly, our operating results will be harmed.

Our future success is dependent upon our ability to expand our customer base and introduce new applications and products.

Our current customer base is primarily composed of academic and government research laboratories, biopharmaceutical companies and clinical laboratories (including physician-owned laboratories) that perform analyses using our nCounter Analysis Systems. Our success will depend, in part, upon our ability to increase our market penetration among all of these customers and to expand our market by developing and marketing new research applications and new instruments. We expect that increasing the installed base of our nCounter Analysis Systems will drive demand for our relatively high margin consumable products. If we are not able to successfully increase our installed base of nCounter Analysis Systems, sales of our consumable products and our margins may not meet expectations.

We also develop and introduce new products, such as our recently launched GeoMx DSP system. Our GeoMx DSP instrument and related consumables became commercially available in 2019 and we anticipate that scaling and training our sales force to attract new customers will require substantial time and expense. Any failure to expand our existing customer base through the launch of our GeoMx DSP system or other new applications and products would adversely affect our operating results.

The life sciences research market is highly competitive. If we fail to compete effectively, our business and operating results will suffer.

We face significant competition in the life sciences research market. We currently compete with both established and early stage life sciences research companies that design, manufacture and market instruments and consumables for gene expression analysis, single-cell analysis, polymerase chain reaction, or PCR, digital PCR, other nucleic acid detection and additional applications. These companies use well-established laboratory techniques such as microarrays or quantitative PCR as well as newer technologies such as next generation sequencing such as RNA-sequencing. We believe our principal competitors in the life sciences research and diagnostic markets are Agilent Technologies, Akoya Biosciences, Bio-Rad, Bio-Techne, Fluidigm, Illumina, Qiagen, Thermo Fisher Scientific and 10x Genomics. In addition, there are a number of new market entrants in the process of developing novel technologies for the life sciences market, including those that may compete with GeoMx DSP.

Many of our current competitors are large publicly-traded companies, or are divisions of large publicly-traded companies, and may enjoy a number of competitive advantages over us, including:

- greater name and brand recognition, financial and human resources;
- broader product lines;
- larger sales forces and more established distributor networks;
- substantial intellectual property portfolios;
- larger and more established customer bases and relationships; and
- better established, larger scale, and lower cost manufacturing capabilities.

We believe that the principal competitive factors in all of our target markets include:

- cost of capital equipment;
- cost of consumables and supplies;
- reputation among customers;
- innovation in product offerings;
- flexibility and ease-of-use;
- accuracy and reproducibility of results; and
- compatibility with existing laboratory processes, tools and methods.

We cannot assure investors that our products will compete favorably or that we will be successful in the face of increasing competition from new products and technologies introduced by our existing competitors or new companies entering our markets. In addition, we cannot assure investors that our competitors do not have or will not develop products or technologies that currently or in the future will enable them to produce competitive products with greater capabilities or at lower costs than ours. For example, certain of our customers have shifted certain types of experiments that previously had been performed on our nCounter system to RNA-sequencing technology. Although we are pursuing several strategies to mitigate this trend, there can be no assurance we will be successful in doing so. Any failure to compete effectively could materially and adversely affect our business, financial condition and operating results.

New product development involves a lengthy and complex process, and we may be unable to commercialize on a timely basis, or at all, any of the products we develop.

Few research and development projects result in successful commercial products. At any point, we may abandon development of a product candidate, which would adversely impact potential revenue and our expenses. In addition, any delay in product development would provide others with additional time to commercialize competing products before we do, which in turn may adversely affect our growth prospects and operating results. For example, our inability to successfully develop the SMI platform would negatively impact our prospects for future revenue growth.

New market opportunities may not develop as quickly as we expect, limiting our ability to successfully market and sell our products.

The markets for our products are new and evolving. Accordingly, we expect the application of our technologies to emerging opportunities will take several years to develop and mature and we cannot be certain that these market opportunities will develop as we expect. For example, in 2018, we expanded beyond oncology and launched research panels in neuroscience and CAR-T characterization, in 2019 we introduced research panels for human organ transplantation and Alzheimer's disease, and in 2020 we launched GeoMx DSP protein assays for next generation sequencing.

In 2019 we also launched our GeoMx DSP system and related consumables. GeoMx DSP targets spatial genomics, a novel market opportunity and research application for which existing research experience and applications are limited. Prior to the launch of GeoMx DSP, we had not previously targeted this market and, as a result, we have limited marketing and selling experience. We also have GeoMx DSP related products under development that target new markets and customers that differ from our current customer base. Even if we successfully develop these products, our limited marketing and selling experience targeting these new markets and customers may hinder the successful commercialization of these products.

The future growth of the market for these new products depends on many factors beyond our control, including recognition and acceptance of our applications by the scientific community and the growth, prevalence and costs of competing methods. In addition, the COVID-19 pandemic has disrupted our operations and the operations of the customers we seek to service in our targeted markets, which has impacted, and we expect to continue to impact, our growth and our ability to serve these markets. If the markets for our new products do not develop as we expect, our business may be adversely affected. If we

are not able to successfully market and sell our products or to achieve the revenue or margins we expect, our operating results may be harmed.

Our research business depends on levels of research and development spending by academic and governmental research institutions and biopharmaceutical companies, a reduction in which could limit demand for our products and adversely affect our business and operating results.

In the near term, we expect that a large portion of our revenue will be derived from sales of our nCounter Analysis Systems to academic and government research laboratories and biopharmaceutical companies worldwide for research and development applications. The demand for our products will depend in part upon the research and development budgets of these customers, which are impacted by factors beyond our control, such as:

- changes in government programs (such as the National Institutes of Health) that provide funding to research institutions and companies;
- macroeconomic conditions, the political climate and the ongoing impact of the COVID-19 pandemic;
- changes in the regulatory environment;
- differences in budgetary cycles;
- competitor product offerings or pricing;
- market-driven pressures to consolidate operations and reduce costs; and
- market acceptance of relatively new technologies, such as our GeoMx DSP instrument.

In addition, academic, governmental and other research institutions that fund research and development activities may be subject to stringent budgetary constraints that could result in spending reductions, reduced allocations or budget cutbacks, which could jeopardize the ability of these customers to purchase our products. Our operating results may fluctuate substantially due to reductions and delays in research and development expenditures by these customers, including delays caused by these customers' reducing activities in response to the COVID-19 pandemic. Any decrease in our customers' budgets or expenditures, or in the size, scope or frequency of capital or operating expenditures, could materially and adversely affect our business, operating results and financial condition.

Our sales cycle is lengthy and variable, which makes it difficult for us to forecast revenue and other operating results.

Our instruments require a significant investment and, accordingly, our sales process involves numerous interactions with multiple individuals within an organization, and often includes in-depth analysis by potential customers of our products, performance of proof-of-principle studies, preparation of extensive documentation and a lengthy review process. As a result of these factors, the significant capital investment required in purchasing our instruments and the budget cycles of our customers, the time from initial contact with a customer to our receipt of a purchase order can vary significantly, and may be up to 12 months or longer. In addition, the recent introduction of GeoMx DSP in 2019 may decrease our near-term visibility as to the timing of our total sales or the length of our overall sales cycle. Given the length and uncertainty of our sales cycle we have in the past experienced, and likely will in the future experience, fluctuations in our instrument sales will occur on a period-to-period basis. These factors also make it difficult to forecast revenue on a quarterly basis. In addition, any failure to meet customer expectations could result in customers choosing to continue to use their existing systems or to purchase systems other than ours.

Our reliance on distributors for sales of our products outside of the United States could limit or prevent us from selling our products and impact our revenue.

We have established distribution agreements for our nCounter Analysis Systems and GeoMx DSP systems and related consumable products in many countries where we do not sell directly. We intend to continue to grow our business internationally, and to do so we must attract additional distributors and retain existing distributors to maximize the commercial opportunity for our products. There is no guarantee that we will be successful in attracting or retaining desirable sales and distribution partners or that we will be able to enter into such arrangements on favorable terms. Distributors may not commit the necessary resources to market and sell our products to the level of our expectations or may choose to favor marketing the products of our competitors. If current or future distributors do not perform adequately, or we are unable to enter into effective arrangements with distributors in particular geographic areas, we may not realize long-term international revenue growth.

Our future capital needs are uncertain and we may need to raise additional funds in the future.

We believe that our existing cash and cash equivalents and short-term investments will be sufficient to meet our anticipated cash requirements for at least the next 12 months. However, we may need or choose to raise substantial additional capital to:

- expand the commercialization of our products;
- fund our operations; and
- further our research and development.

Our future funding requirements will depend on many factors, including:

- market acceptance of our products;
- the cost and timing of establishing additional sales, marketing and distribution capabilities;
- revenue and cash flow derived from existing or future collaborations;
- the cost of our research and development activities;
- the cost and timing of regulatory clearances or approvals;
- the effect of competing technological and market developments; and
- the extent to which we engage in strategic transactions, such as the acquisition of, investment in or disposal of businesses, assets, products and technologies, including inbound or outbound licensing arrangements.

We cannot assure you that we will be able to obtain additional funds on acceptable terms, or at all. If we raise additional funds by issuing equity or equity-linked securities, or convertible debt, our stockholders may experience dilution. For example, in March 2020, we sold $230 million aggregate principal amount of our 2.625% Convertible Senior Notes due 2025, or the notes, in a private placement to qualified institutional buyers for net proceeds of $222.6 million and in October 2020, we sold an aggregate of 5,750,000 shares of common stock in an underwritten public offering for net proceeds of $215.8 million. Future debt financing, if available, may involve additional covenants restricting our operations or our ability to incur additional debt. Any debt or additional equity financing that we raise may contain terms that are not favorable to us or our stockholders. If we raise additional funds through strategic transactions with third parties, such as collaborations, asset sales and licensing arrangements, it may be necessary to relinquish some rights to our technologies or our products, or grant licenses on terms that are not favorable to us. We have in the past pursued these types of transactions, such as the License and Asset Purchase Agreement, or LAPA, with Veracyte, Inc., or Veracyte, which we completed in December 2019, and may in the future pursue similar transactions or other strategic transactions, on our own or with other advisors, that may impact our business and prospects and the value of our common stock. If we do not have, or are not able to obtain sufficient funds, we may have to delay development or commercialization of our products or license to third parties the rights to commercialize products or technologies that we would otherwise seek to commercialize. We also may have to reduce marketing, customer support or other resources devoted to our products or cease operations. Any of these factors could harm our operating results.

We may not be able to develop new products, enhance the capabilities of our systems to keep pace with rapidly changing technology and customer requirements or successfully manage the transition to new product offerings, any of which could have a material adverse effect on our business and operating results.

Our success depends on our ability to develop new products and applications for our technology in existing and new markets, while improving the performance and cost-effectiveness of our systems. New technologies, techniques or products could emerge that might offer better combinations of price and performance than our current or future products and systems. Existing markets for our products, including gene expression analysis, gene fusions and copy number variation, as well as new markets, such as protein expression and gene mutations, and potential markets for our research product candidates, are characterized by rapid technological change and innovation. Competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards or customer requirements. We anticipate that we will face increased competition in the future as existing companies and competitors develop new or improved products and as new companies enter the market with new technologies. It is critical to our success that we anticipate changes in technology and customer requirements and successfully introduce new, enhanced and competitive technologies to meet our customers' and prospective customers' needs on a timely and cost-effective basis. If we do not successfully innovate and introduce new technology into our product lines, our business and operating results will be adversely impacted.

The development and manufacture of new products typically requires new scientific discoveries or advancements and complex technology and engineering, including the design of sophisticated software. Such developments may involve external suppliers and service providers, making the management of development projects complex and subject to risks and uncertainties regarding timing, timely delivery of required components, software or services and satisfactory technical performance of such components, software or assembled products. If we do not achieve the required technical specifications or successfully manage new product development processes, or if development work and manufacturing is not performed

according to schedule, then such new technologies or products may be adversely impacted and our business and operating results may be harmed. Any delays in bringing new products to market may lead our customers to purchase our competitors' products or cancel outstanding purchase orders.

Additionally, we must carefully manage the introduction of new products. If customers believe that such products will offer enhanced features or be sold for a more attractive price, they may delay purchases until such products are available. If customers conclude that such new products offer better value as compared to our existing products, we may suffer from reduced sales of our existing products and our overall revenue may decline. We may also have excess or obsolete inventory of older products as we transition to new products and our experience in managing product transitions is limited. If we do not effectively manage the transitions to new product offerings, our revenue, results of operations and business will be adversely affected.

We are dependent on single source suppliers for some of the components and materials used in our products, and the loss of any of these suppliers could harm our business.

We rely on Precision System Science, Co., Ltd of Chiba, Japan, to build our nCounter Prep Station, Korvis LLC of Corvallis, Oregon, to build our nCounter Digital Analyzer and GeoMx DSP, Paramit Corporation of Morgan Hill, California, to build the nCounter SPRINT Profiler and IDEX Corporation of Lake Forest, Illinois to build the fluidics cartridge, a key component of our nCounter SPRINT Profiler. Each of these contract manufacturers are sole suppliers. Since our contracts with these instrument suppliers do not commit them to carry inventory or make available any particular quantities, they may give other customers' needs higher priority than ours, and we may not be able to obtain adequate supplies in a timely manner or on commercially reasonable terms. We also rely on sole suppliers for various components we use to manufacture our consumable products. We periodically forecast our needs for such components and enter into standard purchase orders with them. If we were to lose such suppliers, or if the products provided by such suppliers are unable to meet our performance specifications, there can be no assurance that we will be able to identify or enter into agreements with alternative suppliers on a timely basis on acceptable terms, if at all. In addition, if as a result of global economic or political instability or disease outbreaks such as the COVID-19 pandemic, our suppliers experience shortages or delays for materials sourced or manufactured in the affected countries, their ability to supply us with instruments or product components may be affected. From time to time, certain components of our systems and reagents reach the end of their life cycles or are obsoleted by our suppliers, and we have to procure alternative sources for these end-of-life products. If we should encounter delays or difficulties in securing the quality and quantity of materials we require for our products, our supply chain would be interrupted which would adversely affect sales. If any of these events occur, our business and operating results could be harmed.

We may experience manufacturing problems or delays that could limit our growth or adversely affect our operating results.

Our consumable products are manufactured at our facilities located in the greater Seattle, Washington area using complex processes, sophisticated equipment and strict adherence to specifications and quality systems procedures. Any unforeseen manufacturing problems, such as contamination of our facilities, equipment malfunction, quality issues with components and materials sourced from third-party suppliers, failure to strictly follow procedures or meet specifications, or reduced or blocked access to our facilities as a result of the ongoing COVID-19 pandemic, could result in delays or shortfalls in production or require us to voluntarily recall our consumable products. Identifying and resolving the cause of any such manufacturing or supplier issues could require substantial time and resources. If we are unable to keep up with demand for our products by successfully manufacturing and shipping our products in a timely manner, our revenue could be impaired, market acceptance for our products could be adversely affected and our customers might instead purchase our competitors' products or cancel outstanding purchase orders.

In addition, the introduction of new products may require the development of new manufacturing processes and procedures as well as new suppliers. For example, our GeoMx DSP systems require that we establish supply relationships with antibody providers. While all of our CodeSets are produced using the same basic processes, significant variations may be required to meet new product specifications. Developing new processes and negotiating supply agreements can be very time consuming, and any unexpected difficulty in doing so could delay the introduction of a product.

If our greater Seattle area facilities become unavailable or inoperable, we will be unable to continue our research and development, manufacturing our consumables or processing sales orders, and our business will be harmed.

We manufacture our consumable products in our facilities located in the greater Seattle, Washington area, which are the center for research and development, order processing, receipt of our instruments manufactured by third-party contract manufacturers and shipping products to customers. Our facilities and the equipment we use to manufacture our consumable products would be costly, and would require substantial lead time, to repair or replace. The Seattle area is situated near active earthquake fault lines. These facilities may be harmed or rendered inoperable by natural or man-made disasters, including earthquakes and power outages, which may render it difficult or impossible for us to produce our products for some period of time. The inability to manufacture consumables or to ship products to customers for even a short period of time may result in

the loss of customers or harm our reputation, and we may be unable to regain those customers in the future. Although we possess insurance for damage to our property and the disruption of our business, this insurance, and in particular earthquake insurance, which is limited, may not be sufficient to cover all of our potential losses and may not continue to be available to us on acceptable terms, if at all.

We expect to generate a substantial portion of our product and service revenue internationally and are subject to various risks relating to our international activities, which could adversely affect our operating results.

Our product and service revenue generated from sales to customers located outside of North America was approximately 34%, 38% and 40% for the years ended December 31, 2020, 2019 and 2018, respectively. We believe that a significant percentage of our future revenue will come from international sources as we expand our overseas operations and develop opportunities in additional areas. Engaging in international business involves a number of difficulties and risks, including:

- required compliance with existing and changing foreign regulatory requirements and laws;
- required compliance with anti-bribery laws, such as the U.S. Foreign Corrupt Practices Act and U.K. Bribery Act, privacy and data protection requirements, labor laws and anti-competition regulations;
- export or import restrictions;
- various reimbursement and insurance regimes;
- laws and business practices favoring local companies;
- longer payment cycles and difficulties in enforcing agreements and collecting receivables through certain foreign legal systems;
- political and economic instability, such as the exit of the United Kingdom from the European Union;
- global health pandemics, such as the ongoing COVID-19 pandemic;
- potentially adverse tax consequences, tariffs, customs charges, bureaucratic requirements and other trade barriers;
- difficulties and costs of staffing and managing foreign operations; and
- difficulties protecting or procuring intellectual property rights.

As we expand internationally, our results of operations and cash flows will become increasingly subject to fluctuations due to changes in foreign currency exchange rates. Historically, most of our revenue has been denominated in U.S. dollars, although we have sold our products and services in local currency outside of the United States, principally the Euro. Our expenses are generally denominated in the currencies of the countries in which our operations are located, which is primarily in the United States. As our operations in countries outside of the United States grow, our results of operations and cash flows will increasingly be subject to fluctuations due to changes in foreign currency exchange rates, which could harm our business in the future. For example, if the value of the U.S. dollar increases relative to foreign currencies, our product and service revenue could be adversely affected as we convert revenue from local currencies to U.S. dollars. Similarly, a strong U.S. dollar relative to the local currencies of our international customers can potentially reduce demand for our products, which may compound the adverse effect of foreign exchange translation on our revenue. If we dedicate significant resources to our international operations and are unable to manage these risks effectively, our business, operating results and prospects will suffer.

Significant United Kingdom or European developments stemming from the United Kingdom's withdrawal from the European Union could have a material adverse effect on us.

In June 2016, the United Kingdom held a referendum and voted in favor of leaving the European Union, and in March 2017, the government of the United Kingdom formally initiated the withdrawal process. After several delays the United Kingdom exited from the European Union, on January 31, 2020, subject to a transition period that ended December 31, 2020. The United Kingdom's exit from the EU, or Brexit, has created political and economic uncertainty, particularly in the United Kingdom and the European Union, and this uncertainty may last for several more years. Our business in the United Kingdom, the European Union, and worldwide could be affected during this period of uncertainty, and perhaps longer. Complying with changes in regulations in the United Kingdom in addition to European Union regulations will increase our costs of compliance and result in greater legal risks. There are many ways in which our business could be affected, only some of which we can identify as of the date of this report.

The decision of the United Kingdom to withdraw from the European Union has caused and, along with events that could occur in the future as a consequence of the United Kingdom's withdrawal may continue to cause significant volatility in global financial markets, including in global currency and debt markets. This volatility could cause a slowdown in economic activity in the United Kingdom, Europe or globally, which could adversely affect our operating results and growth prospects. In addition, our business could be negatively affected by new trade agreements or data transfer agreements between the United

Kingdom and other countries, including the United States, and by the possible imposition of trade or other regulatory and immigration barriers in the United Kingdom. In addition, the Europe-wide market authorization framework for our products (and for the drugs sold by our collaboration partners in the pharmaceutical industry) and access to European Union research funding by research scientists based in the United Kingdom may also change and may also result in a slowdown in spending on research tools like our systems. Furthermore, we currently operate in Europe through a subsidiary based in the United Kingdom, which provides us with certain operational, tax and other benefits, as well as through other subsidiaries in Europe. The United Kingdom's withdrawal from the European Union could adversely affect our ability to realize those benefits and we may incur costs and suffer disruptions in our European operations as a result. These possible negative impacts, and others resulting from the United Kingdom's withdrawal from the European Union, may adversely affect our operating results and growth prospects.

We could be subject to additional income tax liabilities.

We are subject to income taxes in the United States and numerous foreign jurisdictions. Significant judgment is required in evaluating our worldwide provision for income taxes. During the ordinary course of business, there are many transactions for which the ultimate tax determination is uncertain. For example, our effective tax rates could be adversely affected by earnings being lower than anticipated in countries where we have lower statutory rates and higher than anticipated in countries where we have higher statutory rates, by changes in foreign currency exchange rates, by changes in the valuation of our deferred tax assets and liabilities, or by changes in the relevant tax, accounting and other laws, regulations, principles and interpretations. We are subject to audit in various jurisdictions, and such jurisdictions may assess additional income tax against us. Although we believe our tax estimates are reasonable and we have established any required reserves in respect of such estimates in accordance with Generally Accepted Accounting Principles, the final determination of tax audits and any related litigation could be materially different from our historical income tax provisions and accruals. The results of an audit or litigation could have a material effect on our operating results or cash flows in the period or periods for which that determination is made.

Changes in tax laws or regulations that are applied adversely to us or our customers may have a material adverse effect on our business, cash flow, financial condition or results of operations.

New income, sales, use or other tax laws, statutes, rules, regulations or ordinances could be enacted at any time, which could affect the tax treatment of our domestic and foreign earnings. Any new taxes could adversely affect our domestic and international business operations, and our business and financial performance. Further, existing tax laws, statutes, rules, regulations or ordinances could be interpreted, changed, modified or applied adversely to us. For example, the legislation commonly known as the Tax Cuts & Jobs Act, or the TCJA, which was signed into law on December 22, 2017, as modified by the recently enacted Coronavirus Aid, Relief, and Economic Security Act of 2020, or CARES Act, significantly revised the Internal Revenue Code of 1986, as amended, or the Code. The TCJA, among other things, contains significant changes to corporate taxation, including a reduction of the federal statutory rates from a top marginal rate of 35% to a flat rate of 21%, the transition of U.S. international taxation from a worldwide tax system to a territorial system, one time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, and modifying or repealing many business deductions and credits. We have accounted for such changes in accordance with our understanding of the TCJA, as modified by the CARES Act, and guidance available as of the date of this filing as described in more detail in our financial statements. We will continue to monitor and assess the impact of the federal legislation on our business and the extent to which various states conform to the newly enacted federal tax law. Any further changes in tax laws or regulations that are applied adversely to us or our customers could have a material adverse effect on our business, cash flow, financial condition or results of operations.

Our ability to use net operating losses to offset future taxable income may be subject to certain limitations.

As of December 31, 2020, we had federal net operating loss carryforwards, or NOLs, to offset future taxable income of approximately $438.3 million. The federal NOLs generated during and after fiscal 2018 totaling $204.4 million are carried forward indefinitely, while all others, if not utilized, will expire in various years beginning in 2025. A lack of future taxable income would adversely affect our ability to utilize these NOLs. In addition, under Section 382 of the Code, a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its NOLs to offset future taxable income. We may have already experienced one or more ownership changes. Depending on the timing of any future utilization of our carryforwards, we may be limited as to the amount that can be utilized each year as a result of such previous ownership changes. However, we do not believe such limitations will cause our NOLs and tax credit carryforwards to expire unutilized. In addition, future changes in our stock ownership as well as other changes that may be outside of our control, could result in additional ownership changes under Section 382 of the Code. Our NOLs may also be impaired under similar provisions of state law or limited pursuant to provisions of the TCJA amendments to the Code, as modified by the CARES Act. We have recorded a full valuation allowance related to our NOLs and other deferred tax assets due to the uncertainty of the ultimate realization of the future benefits of those assets.

Provisions of debt instruments we may enter into may restrict our ability to pursue our business strategies.

From time to time, we have used debt financing to provide capital for our business. Debt instruments we may enter into in the future may require us, to comply with various covenants that limit our ability to, among other things:

- dispose of assets;
- complete mergers or acquisitions;
- incur indebtedness;
- encumber assets;
- pay dividends or make other distributions to holders of our capital stock;
- make specified investments;
- engage in any new line of business; and
- engage in certain transactions with our affiliates.

These restrictions could inhibit our ability to pursue our business strategies and may also impose certain financial covenants that require us to achieve certain revenue targets and/or maintain certain minimum cash balances. If we default under any such debt instruments, the lenders could terminate commitments to lend and cause all amounts outstanding with respect to such debt to be due and payable immediately, which in turn could result in cross defaults under other debt instruments. Our assets and cash flow may not be sufficient to fully repay borrowings under all of our then outstanding debt instruments if some or all of these instruments are accelerated upon a default. If we are unable to repay, refinance or restructure indebtedness when payment is due, the lenders could also proceed against any collateral granted to them to secure such indebtedness or force us into bankruptcy or liquidation.

Acquisitions or joint ventures could disrupt our business, cause dilution to our stockholders and otherwise harm our business.

We may acquire other businesses, products or technologies as well as pursue strategic alliances, joint ventures, technology licenses or investments in complementary businesses. We have not made any acquisitions to date, and our ability to do so successfully is unproven. Any of these transactions could be material to our financial condition and operating results and expose us to many risks, including:

- disruption in our relationships with customers, distributors or suppliers as a result of such a transaction;
- unanticipated liabilities related to acquired companies;
- difficulties integrating acquired personnel, technologies and operations into our existing business;
- diversion of management time and focus from operating our business;
- increases in our expenses and reductions in our cash available for operations and other uses; and
- possible write-offs or impairment charges relating to acquired businesses.

Foreign acquisitions involve unique risks in addition to those mentioned above, including those related to integration of operations across different cultures and languages, currency risks and the particular economic, political and regulatory risks associated with specific countries.

Also, the anticipated benefit of any strategic transaction may not materialize. Future acquisitions could result in potentially dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities or amortization expenses or write-offs of goodwill, any of which could harm our financial condition. We cannot predict the number, timing or size of future joint ventures or acquisitions, or the effect that any such transactions might have on our operating results.

If we are unable to recruit, train and retain key personnel, we may not achieve our goals.

Our future success depends on our ability to recruit, train, retain and motivate key personnel, including our senior management, research and development, manufacturing and sales and marketing personnel. Competition for qualified personnel is intense, particularly in the Seattle, Washington area. Our growth depends, in particular, on attracting, retaining and motivating highly-trained sales personnel with the necessary scientific background and ability to understand our systems at a technical level to effectively identify and sell to potential new customers. We do not maintain fixed term employment contracts or key man life insurance with any of our employees. Because of the complex and technical nature of our products and the dynamic market in which we compete, any failure to attract, train, retain and motivate qualified personnel could materially harm our operating results and growth prospects.

Undetected errors or defects in our products could harm our reputation, decrease market acceptance of our products or expose us to product liability claims.

Our products have in the past and may in the future contain undetected errors or defects when first introduced or as new versions are released. Disruptions or other performance problems with our products may damage our customers' businesses, harm our reputation and result in reduced revenues. If that occurs, we may also incur significant costs, the attention of our key personnel could be diverted, or other significant customer relations problems may arise. We may also be subject to warranty and liability claims for damages related to errors or defects in our products. A material liability claim or other occurrence that harms our reputation or decreases market acceptance of our products could adversely impact our business and operating results.

The sale and use of products or services based on our technologies, or activities related to our research, could lead to the filing of product liability claims if someone were to allege that one of our products contained a design or manufacturing defect which resulted in the failure to adequately perform the analysis for which it was designed. A product liability claim could result in substantial damages and be costly and time consuming to defend, either of which could materially harm our business or financial condition. We cannot assure investors that our product liability insurance would adequately protect our assets from the financial impact of defending a product liability claim. Any product liability claim brought against us, with or without merit, could increase our product liability insurance rates or prevent us from securing insurance coverage in the future.

We face risks related to handling of hazardous materials and other regulations governing environmental safety.

Our operations are subject to complex and stringent environmental, health, safety and other governmental laws and regulations that both public officials and private individuals may seek to enforce. Our activities that are subject to these regulations include, among other things, our use of hazardous materials in manufacturing and in our products, and the generation, transportation and storage of waste. We could discover that we, an acquired business or our suppliers are not in material compliance with these regulations. Existing laws and regulations may also be revised or reinterpreted, or new laws and regulations may become applicable to us, whether retroactively or prospectively, that may have a negative effect on our business and results of operations. It is also impossible to eliminate completely the risk of accidental environmental contamination or injury to individuals. In such an event, we could be liable for any damages that result, which could adversely affect our business.

If we experience a significant disruption in our information technology systems or breaches of data security, our business could be adversely affected.

We rely on information technology systems to keep financial records, manage our manufacturing operations, fulfill customer orders, capture laboratory data, maintain corporate records, communicate with staff and external parties and operate other critical functions. Our information technology systems, and those of our vendors, are potentially vulnerable to disruption due to breakdown, malicious intrusion and computer viruses or other disruptive events including but not limited to natural disaster. In particular, the COVID-19 pandemic has caused us to modify our business practices, including the requirement that our office-based employees in the U.S. and in most of our other key markets work from home. As a result, we are increasingly dependent upon our technology systems to operate our business and our ability to effectively manage our business depends on the security, reliability and adequacy of our technology systems and data, which includes use of cloud technologies, including Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS). If we were to experience a prolonged system disruption in our information technology systems or those of certain of our vendors, it could negatively impact our ability to serve our customers, which could adversely impact our business. Although we maintain offsite back-ups of our data, if operations at our facilities were disrupted, it may cause a material disruption in our business if we are not capable of restoring function on an acceptable timeframe. In addition, our information technology systems, and those of our vendors, are potentially vulnerable to data security breaches — whether by employees or others — which may expose sensitive data to unauthorized persons. Such data security breaches, whether resulting from hacking, social engineering, phishing, or other causes could lead to the loss of confidential information, trade secrets or other intellectual property, or could lead to unauthorized access to or acquisition of, or the public exposure of, personal information (including sensitive personal information) of our employees, customers and others, any of which could have a material adverse effect on our business, reputation, financial condition and results of operations. In addition, any such access, disclosure or other loss of information could result in legal claims, investigations or proceedings by governmental entities or private parties, adverse publicity and harm to our reputation, loss of business, and liability under laws or regulations, including state data protection regulations and the E.U. General Data Protection Regulation, or GDPR, and other regulations, the breach of which could result in significant penalties. In addition, these breaches and other inappropriate access can be difficult to detect, and any delay in identifying them may lead to increased harm of the type described above. Beginning in 2021, the United Kingdom will be a "third country" under the GDPR. These changes in the law and privacy laws of other countries where we may conduct business will increase our costs of compliance and result in greater legal risks. We expect to continue to expend significant resources to protect against security breaches, and could be required to expend significant amounts to remediate and otherwise respond to security breaches,

including in connection with making notifications to customers or other persons or implementing additional security measures. With the increase in personnel working remotely during the COVID-19 pandemic, we and our vendors are at increased risk for security breaches. We are taking steps in an effort to monitor and enhance the security of our technology systems and data; however, the unprecedented scale of remote work may require additional personnel and resources, which nevertheless cannot be guaranteed to fully safeguard our technology systems or data.

Although we maintain insurance that may cover certain liabilities in connection with a security breach or other security incident, we cannot be certain our insurance coverage will be adequate for liabilities actually incurred, that insurance will continue to be available to us on commercially reasonable terms, or at all, or that any insurer will not deny coverage as to any future claim. The successful assertion of one or more large claims against us that exceed available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, including our financial condition, results of operations and reputation.

We intend to seek strategic collaborations and partnerships and other transactions, which may result in the use of a significant amount of our management resources or significant costs, and we may not be able to fully realize the potential benefit of such transactions.

We intend to seek strategic collaborations, partnerships and other transactions to support the continued growth of our company. However, there is no assurance that we will be successful in doing so. Accordingly, we may be engaged in evaluating potential transactions including, without limitation, strategic partnerships, divestitures of existing businesses or assets, a merger or consolidation with a third party that results in a change in control, a sale or transfer of all or a significant portion of our assets or a purchase by a third party of our securities that may result in a minority or control investment by such third party. From time to time, we may engage in discussions that may result in one or more transactions. Although there would be uncertainty that any of these discussions would result in definitive agreements or the completion of any transaction, we may devote a significant amount of our management resources to such a transaction, which could negatively impact our operations. In addition, we may incur significant costs in connection with seeking strategic transactions regardless of whether the transaction is completed. In the event that we consummate a strategic collaboration, partnership or other transaction in the future, we cannot assure you that we would fully realize the potential benefit of such a transaction or that the market would not have an adverse reaction to any such transaction. The failure to fully realize the potential benefit of such a transaction, adverse market reaction to any such transaction and any other issues we may encounter in connection with the consummation of any such transaction could adversely affect our future financial results or negatively impact the value of stockholders' investment in us.

For example, in December 2019, we entered into a LAPA, with Veracyte, pursuant to which we granted to Veracyte an exclusive worldwide license to our nCounter FLEX Analysis System, or the FLEX System, for *in vitro* diagnostic use and for the development and commercialization of *in vitro* diagnostic tests, including *in vitro* diagnostic devices, or IVDs, or laboratory developed tests, or LDTs, for use on the FLEX System and sold to Veracyte certain assets, including our rights with respect to the Prosigna Breast Cancer Prognostic Gene Signature Assay, the LymphMark Lymphoma Subtyping Test and the assay software modules that operate together with the FLEX System. For additional information regarding our transaction with Veracyte please see Part I, Item 1. "Business — License Agreement — Veracyte, Inc.". We cannot be certain that we will realize all of the anticipated benefits from our transaction with Veracyte and the disposition of certain of our assets pursuant to the LAPA may yet have an unforeseen detrimental impact on our business on a go-forward basis. Furthermore, transactions such as our agreement with Veracyte can be disruptive to our retained operations, divert management's attention from day-to-day operations and potentially increase employee attrition.

Risks Related to Government Regulation

Our "Research Use Only" products for the research life sciences market could become subject to more stringent regulatory requirements as medical devices by the FDA or other regulatory agencies in the future which could increase our costs and delay our commercialization efforts, thereby materially and adversely affecting our business and results of operations.

In the United States, most of our products are currently labeled and sold for Research Use Only, or RUO, and not for the diagnosis or treatment of disease, and are sold to pharmaceutical and biotechnology companies, academic and government institutions and research laboratories. Because such RUO products are not intended for diagnostic or clinical use, and the products do not include clinical or diagnostic claims or provide directions for use as diagnostic products, they are not subject to regulation by the Food and Drug Administration, or FDA, as medical devices. In particular, while the FDA regulations require that RUO products be appropriately labeled, "For Research Use Only. Not for Use in Diagnostic Procedures," the regulations do not subject such products to the FDA's pre- and post-market controls for medical devices. Pursuant to the FDA guidance on RUO products, a company may not make clinical or diagnostic claims about an RUO product or provide clinical directions or clinical support services to customers for RUO products, or engage in distribution or sales practices that are not consistent with the RUO labeling. If the FDA were to modify its approach to regulating RUO products, compliance with additional or changes

in regulations could reduce our revenue or increase our costs and adversely affect our business, prospects, results of operations or financial condition.

Even where our products are labeled, promoted, and intended as RUO, the FDA or comparable agencies of other countries, depending on the totality of circumstances, could disagree with our conclusion that our products are intended for research use only or deem our sales, marketing and promotional efforts as being inconsistent with research use only products. For example, our customers may independently elect to use our RUO products for clinical or diagnostic purposes, which could subject our products to government regulation, and the regulatory clearance or approval and maintenance process for such products may be uncertain, expensive, and time-consuming. This uncertainty exists even if such use by our customers occurs without our consent. If the FDA determines that our sales or distribution practices are not consistent with the RUO labeling, the FDA may take an adverse administrative or enforcement action against us, which could materially harm our business. In the event that the FDA requires marketing authorization of our RUO products in the future, there can be no assurance that the FDA will ultimately grant any clearance or approval requested by us in a timely manner, or at all.

In addition, we sell dual-use instruments with software that has both FDA-cleared functions, and research functions for which the FDA approval or clearance is not required. Dual-use instruments are subject to FDA regulation since they are intended, at least in part, for use by customers performing clinical diagnostic testing. In November 2014, the FDA issued a guidance document that described the FDA's approach to regulating molecular diagnostic instruments that combine both approved/cleared device functions and research functions for which approval/clearance is not required. There is a risk that the requirements for dual-use instruments could change causing additional costs and delays for development of these products. For example, there could be enforcement action if the FDA determines that approval or clearance was required for those functions for which the FDA approval or clearance has not been obtained, or the instruments are being promoted for off-label use. There is also a risk that the FDA could broaden its current regulatory enforcement of dual-use instruments through additional FDA oversight of such products or impose additional requirements upon such products. In July 2017, FDA adopted a new regulation exempting certain clinical multiplex test systems, like the ones used with the Prosigna assay that we supply to Veracyte, from premarket notification requirements, although such instruments are still required to comply with the special controls applicable to Class II medical devices. However, these new regulations will not impact the FDA clearance requirements for our nCounter Dx Analysis System intended for use with specific assays or panels for clinical or diagnostic purposes, such as Prosigna, each of which will require separate premarket notification or premarket approval.

Our nCounter reagents may be used by clinical laboratories to create Laboratory-Developed Tests (LDTs), which could, in the future, be the subject of additional FDA regulation as medical devices, which could materially and adversely affect our business and results of operations.

Our nCounter reagents allow users to design and validate their own customized assays using standard sets of barcodes provided by us with the laboratories' choice of oligonucleotide probes. These reagents may be used by laboratories in conjunction with analyte-specific reagents and general purpose reagents to create diagnostic tests or test systems validated within the accredited testing laboratory.

A clinical laboratory can use our custom-manufactured reagents to create what is called a Laboratory Developed Test, or LDT. LDTs, according to the FDA, are *in vitro* diagnostic tests that are developed, validated and performed by a single laboratory and include genetic tests. Historically, the FDA has generally exercised "enforcement discretion" for most LDTs, meaning that the FDA has not required LDTs to comply with medical device requirements. However, the FDA has sought to regulate certain types of LDTs, such as pharmacogenetic tests and cancer screening tests, and had taken enforcement action against companies marketing such tests without premarket authorization. In October 2014, the FDA issued two draft guidance documents proposing a comprehensive risk-based regulatory framework for all LDTs. Although the FDA announced in 2016 these draft guidance documents would not be finalized, the FDA could in the future seek to regulate LDTs more broadly and could take enforcement action against new LDTs, the FDA could alter its position or question a particular LDT that a laboratory is providing.

In August 2020, the Department of Health and Human Services, or HHS, announced rescission of guidances and other informal issuances of FDA regarding premarket review of LDT absent notice-and-comment rulemaking, stating that, absent notice-and-comment rulemaking, those seeking approval or clearance of, or an emergency use authorization, for an LDT may nonetheless voluntarily submit a premarket approval application, premarket notification or an EUA request, respectively, but are not required to do so. How this HHS rescission policy will be implemented, if at all, under the current administration and new leadership at the HHS remains unclear. It is unclear how this action as well as future legislation by federal and state governments and FDA regulation will impact the industry, including our business and that of our customers. Any restrictions on LDTs, IVDs, or RUO products by the FDA, HSS, Congress, or state regulatory authorities could decrease the demand for our products. Additionally, compliance with additional regulatory burdens could be time consuming and costly for us and our partners and customers. The adoption of the new restrictions on RUOs, whether by the FDA or Congress, could adversely affect demand for our specialized reagents and instruments. Further, we could be required to obtain premarket clearance or approval before we can continue to sell our products to certain customers.

We are subject to ongoing and extensive regulatory requirements, and our failure to comply with these requirements could substantially harm our business.

Certain of our products are regulated as *in vitro* diagnostic medical devices, including the nCounter FLEX Analysis System. Accordingly, we and certain of our contract manufacturers are subject to ongoing International Organization for Standardization, or ISO, obligations as well as regulation by the FDA, state regulatory authorities, and other comparable national and local health authorities. These may include routine inspections of our manufacturing facilities and our records by Notified Bodies, the FDA, and other health authorities, to assess compliance with requirements such as ISO 13485 and the FDA's Quality System Regulations, or QSR, 21 C.F.R. Part 820 which include extensive requirements for quality assurance and control as well as manufacturing and change control procedures, among other things. We are also subject to other FDA regulations, such as requirements pertaining to the registration of our manufacturing facilities and the listing of our devices with the FDA; continued medical device reporting, for example, reporting of adverse events and malfunctions; reporting certain corrections and removals; and labeling and promotional requirements. Other agencies may also issue guidelines and regulations that could impact the development, labeling, marketing, and distribution of our products, among other activities. The final form of the European Medical Device Regulation (MDR), which will replace Europe's Medical Device Directive (MDD), becomes effective on May 26, 2021. On May 25, 2017 the European Union adopted the IVD Directive Regulation, which increases the regulatory requirements applicable to *in vitro* diagnostics in the EU and may require the re-classification and approval, registration, or clearance of CE-marked IVD products, including our nCounter FLEX system, within a five-year grace period (by May 26, 2022).

We may also be subject to additional FDA or global regulatory authority post-marketing obligations or requirements by the FDA or other regulatory authorities to change our current product classifications which would impose additional regulatory obligations on us and our contractors. If we or our contractors or suppliers are not able to maintain regulatory compliance, we may not be permitted to market our medical device products and/or may be subject to enforcement by EU Competent Authorities and the FDA and other global regulatory authority such as the issuance of warning or untitled letters, fines, injunctions, and civil penalties; recall or seizure of products; operating restrictions; and criminal prosecution. In addition, we may be subject to similar regulatory regimes of other foreign jurisdictions as we continue to commercialize our products in new markets outside of the United States and Europe. Any adverse action by Notified Body, EU Competent Authority, the FDA or other global regulatory authority could significantly increase our expenses, expose us to greater liability, limit our revenue and profitability, and cause reputational harm.

We are also required to comply with an increasing number of environmental compliance regulations, including those focused upon the restriction of certain hazardous substances in our products. We have compliance programs designed to meet the requirements of environmental compliance regulations, but our failure to comply with such current or future regulations could result in the imposition of substantial fines, suspension of production, alteration of our manufacturing processes or cessation of operations that could have a material adverse effect on our business, results of operations and financial condition.

We may be subject, directly or indirectly, to healthcare fraud and abuse laws and other laws applicable to our marketing and promotional practices. If we or our agents and contractors are unable to comply, or have not complied, with such laws, we could face substantial penalties.

Various laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Our operations are directly, or indirectly through our agents, contractors, or customers, subject to various fraud and abuse laws, including, without limitation, the federal and state anti-kickback statutes and state, and federal and foreign marketing compliance laws. Any misconduct could result in regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by our employees, agents, representatives, or independent contractors that we may work with, and the precautions we take to detect and prevent misconduct may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other adverse actions or lawsuits stemming from a failure to comply with applicable laws and regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions, exclusion from participation in government healthcare programs, or the curtailment or restructuring of our operations. These laws may impact, among other things, our proposed sales and marketing and education programs and require us to implement additional internal systems for tracking certain marketing expenditures and reporting them to government authorities. In addition, we may be subject to laws and regulations relating to privacy and data protection by both the federal government and the states in which we conduct our business as well as by foreign governments and entities. The laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-kickback Statute and state equivalents;
- the federal physician self-referral prohibition, commonly known as the Stark Law, and state equivalents;

- the federal Health Insurance Portability and Accountability Act of 1996, as amended, commonly known as HIPAA;
- the Medicare civil money penalty laws and exclusion requirements;
- the federal False Claims Act and state equivalents;
- the Physician Payments Sunshine Act;
- state, federal and foreign marketing expenditure disclosure laws;
- state privacy laws, such as the California Consumer Privacy Act and California Privacy Rights Act;
- the Foreign Corrupt Practices Act, which applies to our international activities; and
- the European Union's General Data Protection Regulation.

Among other requirements, the GDPR regulates transfers of personal data subject to the GDPR to third countries that have not been found to provide adequate protection to such personal data, including the U.S. We have undertaken certain efforts to conform transfers of personal data from the European Economic Area, or EEA, to the U.S. and other jurisdictions based on our understanding of current regulatory obligations and the guidance of data protection authorities, including standard contractual clauses approved by the European Commission, or the SCCs, and the EU-U.S. and Swiss-U.S. Privacy Shield programs administered by the U.S. Department of Commerce. Despite this, we may be unsuccessful in maintaining conforming means of transferring personal data from the EEA, in particular as a result of continued legal and legislative activity within the EEA. Both the U.S.-E.U. Privacy Shield and the SCCs have been subject to legal challenge and on July 16, 2020, the Court of Justice of the European Union issued a decision invalidating the EU-U.S. Privacy Shield and imposing additional requirements in connection with the use of the SCCs. We are assessing this decision and its impact on our data transfer mechanisms. We may, in addition to other impacts, experience additional costs associated with increased compliance burdens, and we and our customers face the potential for regulators in the EEA to apply different standards to the transfer of personal data from the EEA to the U.S., and to block, or require ad hoc verification of measures taken with respect to, certain data flows from the EEA to the U.S. We also may be required to engage in new contract negotiations with third parties that aid in processing data on our behalf. We may find it necessary or desirable to make further changes to our handling of personal data of EEA residents. The regulatory environment applicable to the handling of EEA residents' personal data, and our actions taken in response, may cause us to assume additional liabilities or incur additional costs and could result in our business, operating results and financial condition being harmed. Additionally, we and our customers may face a risk of enforcement actions by data protection authorities in the EEA relating to personal data transfers to us and by us from the EEA. Any such enforcement actions could result in substantial costs and diversion of resources, distract management and technical personnel and negatively affect our business, operating results and financial condition.

More generally, the laws, rules and regulations relating to privacy or data protection to which we may be subject, or that otherwise apply to our business, are constantly evolving, and we expect that there will continue to be new proposed laws, regulations and industry standards concerning these matters in the United States, the EU and other jurisdictions. If our operations are found to be in violation of any of the laws or regulations described above or others that apply to us, or to which we become subject in the future, we may be subject to claims, complaints, investigations, enforcement actions, and penalties, including civil and criminal penalties, damages, fines and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Healthcare policy changes, including legislation reforming the United States healthcare system, may have a material adverse effect on our financial condition and results of operations.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, collectively, the ACA, enacted in March 2010, made changes that significantly impact the pharmaceutical and medical device industries and clinical laboratories. For example, beginning in 2013, each medical device manufacturer must pay a sales tax in an amount equal to 2.3% of the price for which such manufacturer sells its medical devices. In December 2015, Congress passed a two-year suspension of the medical device tax from January 1, 2016 to December 31, 2017. The tax applies to our listed medical device products, which include the nCounter Dx Analysis System. In December 2019, this excise tax was permanently repealed for medical device sales, effective after December 31, 2019. The Budget Control Act of 2011 contained automatic spending cuts to the federal budget known as sequestration. As a result of sequestration, Medicare payments are reduced by 2% per year through 2030, with the exception of a temporary suspension implemented under various COVID 19 relief legislation from May 1, 2020 through March 31, 2021, unless additional congressional action is taken. These or any future proposed or mandated reductions in payments and may indirectly reduce demand for our products.

Other significant measures contained in the ACA include coordination and promotion of research on comparative clinical effectiveness of different technologies and procedures, initiatives to revise Medicare payment methodologies, such as bundling of payments across the continuum of care by providers and physicians, and initiatives to promote quality indicators in payment methodologies. The ACA also included significant new fraud and abuse measures, including required disclosures of

financial arrangements with physician customers, lower thresholds for violations and increased potential penalties for such violations.

Since its enactment, certain provisions of the ACA have been subject to judicial and Congressional challenges. On December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the District Court ruling that the individual mandate was unconstitutional and remanded the case to the District Court to determine whether the remaining provisions of the ACA are invalid. The United States Supreme Court granted the petitions for writs of certiorari to review this case in March 2020 and held oral arguments in November 2020. The Supreme Court is expected to issue a decision by mid-2021. We cannot predict the impact of this decision, future litigation, as well as future healthcare initiatives, legislation, regulation, and other efforts implemented at the federal or state level or in countries outside of the United States in which we may do business will have on us, our partners or customers, or our industry in general. Changes in the United States healthcare industry may result in decreased profits to us, which may adversely affect our business, financial condition and results of operations.

Risks Related to Intellectual Property

If we are unable to protect our intellectual property effectively, our business would be harmed.

We rely on patent protection as well as trademark, copyright, trade secret and other intellectual property rights protection and contractual restrictions to protect our proprietary technologies, all of which provide limited protection and may not adequately protect our rights or permit us to gain or keep any competitive advantage. As of December 31, 2020, we owned or licensed approximately 37 issued U.S. patents and approximately 26 pending U.S. patent applications, including provisional and non-provisional filings. We also owned or licensed approximately 270 pending and granted counterpart applications worldwide, including 119 country-specific validations of 18 European patents. We continue to file new patent applications to protect the full range of our technologies. If we fail to protect our intellectual property, third parties may be able to compete more effectively against us and we may incur substantial litigation costs in our attempts to recover or restrict use of our intellectual property.

Our success depends in part on obtaining patent protection for our products and processes, preserving trade secrets, patents, copyrights and trademarks, operating without infringing the proprietary rights of third parties, and acquiring licenses for technology or products. We cannot assure investors that any of our currently pending or future patent applications will result in issued patents, and we cannot predict how long it will take for such patents to be issued. As the patent and prior art landscape for translational research products grows more crowded and becomes more complex we may find it more difficult to obtain patent protection for our products including those related to digital spatial profiling, spatial molecular imaging and sequencing, for example. Our existing patents and any future patents we obtain may not be sufficiently broad to prevent others from practicing our technologies or from developing competing products and may therefore fail to provide us with any competitive advantage. Additionally, we cannot assure investors that our currently pending or future patent applications have or will be filed in all of our potential markets. Further, we cannot assure investors that other parties will not challenge any patents issued to us or that courts or regulatory agencies will hold our patents to be valid or enforceable. We cannot guarantee investors that we will be successful in defending challenges made against our patents and patent applications. Any successful third-party challenge to our patents could result in the third party or the unenforceability or invalidity of such patents and could deprive us of the ability to prevent others from using the technologies claimed in such issued patents.

The patent positions of life sciences companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in such companies' patents has emerged to date in the United States. Furthermore, in the biotechnology field, courts frequently render opinions that may affect the patentability of certain inventions or discoveries, including opinions that may affect the patentability of methods for analyzing or comparing biological macromolecules including nucleic acids, such as DNA and RNA, and proteins.

In particular, the patent positions of companies engaged in development and commercialization of genomic diagnostic tests, like Prosigna, are particularly uncertain. Various courts, including the U.S. Supreme Court, have rendered decisions that impact the scope of patentability of certain inventions or discoveries relating to genomic diagnostics. Specifically, these decisions stand for the proposition that patent claims that recite laws of nature (for example, the relationships between gene expression levels and the likelihood of risk of recurrence of cancer) are not themselves patentable unless those patent claims have sufficient additional features that provide practical assurance that the processes are genuine inventive applications of those laws rather than patent drafting efforts designed to monopolize the law of nature itself. What constitutes a "sufficient" additional feature is uncertain. Furthermore, in view of these decisions, in December 2014 the U.S. Patent and Trademark Office, or USPTO, published revised guidelines for patent examiners to apply when examining process claims for patent eligibility. This guidance was updated by the USPTO in July 2015 and additional illustrative examples provided in May 2016. The USPTO provided additional guidance on examination procedures pertaining to subject matter eligibility in April 2018 and June 2018. The guidance indicates that claims directed to a law of nature, a natural phenomenon, or an abstract idea that do not

meet the eligibility requirements should be rejected as non-statutory, patent ineligible subject matter; however, method of treatment claims that practically apply natural relationships should be considered patent eligible. We cannot assure you that our patent portfolio will not be negatively impacted by the current uncertain state of the law, new court rulings or changes in guidance or procedures issued by the USPTO. From time to time, the U.S. Supreme Court, other federal courts, the U.S. Congress or the USPTO may change the standards of patentability and validity of patents within the genomic diagnostic space, and any such changes could have a negative impact on our business.

The laws of some non-U.S. countries do not protect intellectual property rights to the same extent as the laws of the United States, and many companies have encountered significant problems in protecting and defending such rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biotechnology, which could make it difficult for us to stop the infringement of our patents. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business.

Changes in either the patent laws or in interpretations of patent laws in the United States or other countries may diminish the value of our intellectual property. We cannot predict the breadth of claims that may be allowed or enforced in our patents or in third-party patents. For example:

- We might not have been the first to make the inventions covered by each of our pending patent applications.
- We might not have been the first to file patent applications for these inventions.
- Others may independently develop similar or alternative products and technologies or duplicate any of our products and technologies.
- It is possible that our pending patent applications will not result in issued patents, and even if they issue as patents, they may not provide a basis for commercially viable products, may not provide us with any competitive advantages, or may be challenged and invalidated by third parties.
- We may not develop additional proprietary products and technologies that are patentable.
- The patents of others may have an adverse effect on our business.
- We apply for patents covering our products and technologies and uses thereof, as we deem appropriate. However, we may fail to apply for patents on important products and technologies in a timely fashion or at all.

In addition to pursuing patents on our technology, we take steps to protect our intellectual property and proprietary technology by entering into confidentiality agreements and intellectual property assignment agreements with our employees, consultants, corporate partners and, when needed, our advisors. Similarly, where permitted by applicable law, we enter into non-compete agreements with certain of our employees. Such agreements may not be enforceable or may not provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements, and we may not be able to prevent such unauthorized disclosure. Monitoring unauthorized disclosure is difficult, and we do not know whether the steps we have taken to prevent such disclosure are, or will be, adequate. If we were to enforce a claim that a third party had illegally obtained and was using our trade secrets, it would be expensive and time consuming, and the outcome would be unpredictable. In addition, courts outside the United States may be less willing to protect trade secrets.

In addition, competitors could purchase our products and attempt to replicate some or all of the competitive advantages we derive from our development efforts, willfully infringe our intellectual property rights, design around our protected technology or develop their own competitive technologies that fall outside of our intellectual property rights. In addition, competitors may develop their own versions of our technology in countries where we did not apply for patents, where our patents have not issued or where our intellectual property rights are not recognized and compete with us in those countries and markets. If our intellectual property is not adequately protected so as to protect our market against competitors' products and methods, our competitive position could be adversely affected, as could our business.

We have not yet registered certain of our trademarks in all of our potential markets. If we apply to register these trademarks, our applications may not be allowed for registration, and our registered trademarks may not be maintained or enforced. In addition, opposition or cancellation proceedings may be filed against our trademark applications and registrations, and our trademarks may not survive such proceedings. If we do not secure registrations for our trademarks, we may encounter more difficulty in enforcing them against third parties than we otherwise would.

To the extent our intellectual property, including licensed intellectual property, offers inadequate protection, or is found to be invalid or unenforceable, we would be exposed to a greater risk of direct competition. If our intellectual property does not provide adequate protection against our competitors' products, our competitive position could be adversely affected, as could our business. Both the patent application process and the process of managing patent disputes can be time consuming and expensive.

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

We rely on licenses in order to be able to use various proprietary technologies including our core digital molecular barcoding technology licensed from the Institute for Systems Biology, technology relating to Prosigna licensed from Veracyte, intellectual property relating to a gene signature for lymphoma subtyping from the National Institutes of Health and intellectual property relating to the tumor inflammation signature from Merck. We do not own the patents that underlie these licenses. Our rights to use these technologies and employ the inventions claimed in the licensed patents are subject to the continuation of and compliance with the terms of those licenses.

We may need to license other technologies to commercialize future products. We may also need to negotiate licenses to patents and patent applications after launching any of our commercial products. Our business may suffer if the patents or patent applications are unavailable for license or if we are unable to enter into necessary licenses on acceptable terms.

In some cases, we do not control the prosecution, maintenance, or filing of the patents to which we hold licenses, or the enforcement of these patents against third parties. Some of our patents and patent applications were either acquired from another company who acquired those patents and patent applications from yet another company, or are licensed from a third party. Thus, these patents and patent applications are not written by us or our attorneys, and we did not have control over the drafting and prosecution. The former patent owners and our licensors might not have given the same attention to the drafting and prosecution of these patents and applications as we would have if we had been the owners of the patents and applications and had control over the drafting and prosecution. We cannot be certain that drafting or prosecution of the licensed patents and patent applications by the licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights.

Enforcement of our licensed patents or defense of any claims asserting the invalidity of these patents is often subject to the control or cooperation of our licensors. Certain of our licenses contain provisions that allow the licensor to terminate the license upon specific conditions. Therefore, our business may suffer if these licenses terminate, if the licensors fail to abide by the terms of the license or fail to prevent infringement by third parties or if the licensed patents or other rights are found to be invalid. Our rights under the licenses are subject to our continued compliance with the terms of the license, including the payment of royalties due under the license. Because of the complexity of our products and the patents we have licensed, determining the scope of the license and related royalty obligation can be difficult and can lead to disputes between us and the licensor. An unfavorable resolution of such a dispute could lead to an increase in the royalties payable pursuant to the license or termination of the license. If a licensor believed we were not paying the royalties due under the license or were otherwise not in compliance with the terms of the license, the licensor might attempt to revoke the license. If such an attempt were successful, we might be barred from producing and selling some or all of our products.

In addition, certain of the patents we have licensed relate to technology that was developed with U.S. government grants. Federal regulations impose certain domestic manufacturing requirements with respect to some of our products embodying these patents.

Involvement in lawsuits to protect or enforce our patents and proprietary rights, to determine the scope, coverage and validity of others' proprietary rights, or to defend against third-party claims of intellectual property infringement, could be time-intensive and costly and may adversely impact our business or stock price.

We have received notices of claims of infringement and misappropriation or misuse of other parties' proprietary rights in the past and may from time to time receive additional notices. Some of these claims have led and may lead to litigation. We cannot assure investors that we will prevail in such actions, or that other actions alleging misappropriation or misuse by us of third-party trade secrets, infringement by us of third-party patents and trademarks or other rights, or the validity of our patents, trademarks or other rights, will not be asserted or prosecuted against us.

Litigation may also be necessary for us to protect or enforce our patent and proprietary rights, defend against third-party claims or to determine the scope, coverage and validity of the proprietary rights of others. Litigation could result in substantial legal fees and could adversely affect the scope of our patent protection and reduce our ability to compete in the marketplace. The outcome of any litigation or other proceeding is inherently uncertain and might not be favorable to us. If we resort to legal proceedings to enforce our intellectual property rights or to determine the validity, scope and coverage of the intellectual property or other proprietary rights of others, the proceedings could be burdensome and expensive, even if we were to prevail. Any litigation that may be necessary in the future could result in substantial costs and diversion of resources and could have a material adverse effect on our business, operating results or financial condition.

Numerous significant intellectual property issues have been litigated, and will likely continue to be litigated, between existing and new participants in our existing and targeted markets. Our success depends in part on our non-infringement of the patents or proprietary rights of third parties. We develop complex products that integrate a wide range of technologies which may impact our ability to do so clear of third-party rights and therefore may need to license other technologies or challenge the

scope, coverage and validity of the proprietary rights of others to commercialize future products. As we develop new technologies such as those related to digital spatial profiling, spatial molecular imaging and sequencing, for example, and move into new markets and applications for our products, we expect incumbent participants in such markets may assert their patents and other proprietary rights against us as part of a business strategy to slow our entry into such markets, impede our successful competition and/or extract substantial license and royalty payments from us. In addition, we may be unaware of pending third-party patent applications that relate to our technology and our competitors and others may have patents or may in the future obtain patents and claim that use of our products infringes these patents. Our competitors and others may now, and in the future, have significantly larger and more mature patent portfolios than we currently have. In addition, future litigation may involve patent holding companies or other adverse patent owners who have no relevant product revenue and against whom our own patents may provide little or no deterrence or protection. Therefore, our commercial success may depend in part on our non-infringement of the patents or proprietary rights of third parties. We are aware of a third party, Genomic Health, Inc., that has issued patents and pending patent applications in the United States, Europe and other jurisdictions that claim methods of using certain genes that are included in Prosigna, which we manufacture for Veracyte. We believe that our manufacture of Prosigna does not infringe any valid issued claim. We could incur substantial costs and divert the attention of our management and technical personnel in defending against any of these claims. Any adverse ruling or perception of an adverse ruling in defending ourselves against these claims could have an adverse impact on our stock price, which may be disproportionate to the actual impact of the ruling itself. Parties making claims against us may be able to obtain injunctive or other relief, which could block our ability to develop, commercialize and sell products, and could result in the award of substantial damages against us. In the event of a successful claim of infringement against us, we may be required to pay damages and obtain one or more licenses from third parties, or be prohibited from selling certain products. We may not be able to obtain these licenses at a reasonable cost, if at all. We could therefore incur substantial costs related to royalty payments for licenses obtained from third parties, which could negatively affect our gross margins. In addition, we could encounter delays in product introductions while we attempt to develop alternative methods or products to avoid infringing third-party patents or proprietary rights. Defense of any lawsuit or failure to obtain any of these licenses on favorable terms could prevent us from commercializing products, and the prohibition of sale of any of our products could materially affect our ability to grow and gain market acceptance for our products.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, during the course of this kind of litigation, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

In addition, our agreements with some of our suppliers, distributors, customers, collaborators and other entities with whom we do business require us to defend or indemnify these parties to the extent they become involved in infringement claims against us, including the claims described above. We could also voluntarily agree to defend or indemnify third parties in instances where we are not obligated to do so if we determine it would be important to our business relationships. If we are required or agree to defend or indemnify any of these third parties in connection with any infringement claims, we could incur significant costs and expenses that could adversely affect our business, operating results, or financial condition.

We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of our employees' former employers.

Many of our employees were previously employed at universities or other life sciences companies, including our competitors or potential competitors. Although no claims against us are currently pending, we or our employees may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights. A loss of key research personnel work product could hamper or prevent our ability to commercialize certain potential products, which could severely harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

Our products contain third-party open source software components, and failure to comply with the terms of the underlying open source software licenses could restrict our ability to sell our products.

Our products contain software tools licensed by third-party authors under "open source" licenses. Use and distribution of open source software may entail greater risks than use of third-party commercial software, as open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. Some open source licenses contain requirements that we make available source code for modifications or derivative works we create based upon the type of open source software we use. If we combine our proprietary software with open source software in a certain manner, we could, under certain open source licenses, be required to release the source code of our proprietary software to the

public. This would allow our competitors to create similar products with less development effort and time and ultimately could result in a loss of product sales.

Although we monitor our use of open source software to avoid subjecting our products to conditions, we do not intend, the terms of many open source licenses have not been interpreted by U.S. courts, and there is a risk that these licenses could be construed in a way that could impose unanticipated conditions or restrictions on our ability to commercialize our products. Moreover, we cannot assure investors that our processes for controlling our use of open source software in our products will be effective. If we are held to have breached the terms of an open source software license, we could be required to seek licenses from third parties to continue offering our products on terms that are not economically feasible, to re-engineer our products, to discontinue the sale of our products if re-engineering could not be accomplished on a timely basis, or to make generally available, in source code form, our proprietary code, any of which could adversely affect our business, operating results, and financial condition.

We use third-party software that may be difficult to replace or cause errors or failures of our products that could lead to lost customers or harm to our reputation.

We use software licensed from third parties in our products. In the future, this software may not be available to us on commercially reasonable terms, or at all. Any loss of the right to use any of this software could result in delays in the production of our products until equivalent technology is either developed by us, or, if available, is identified, obtained and integrated, which could harm our business. In addition, any errors or defects in third-party software, or other third-party software failures could result in errors, defects or cause our products to fail, which could harm our business and be costly to correct. Many of these providers attempt to impose limitations on their liability for such errors, defects or failures, and if enforceable, we may have additional liability to our customers or third-party providers that could harm our reputation and increase our operating costs.

We will need to maintain our relationships with third-party software providers and to obtain software from such providers that does not contain any errors or defects. Any failure to do so could adversely impact our ability to deliver reliable products to our customers and could harm our results of operations.

Risks Related to Ownership of Our Common Stock

The price of our common stock may be volatile, and you could lose all or part of your investment.

The trading price of our common stock has fluctuated and may continue to fluctuate substantially. The trading price of our common stock depends on a number of factors, including those described in this “Risk Factors” section, many of which are beyond our control and may not be related to our operating performance. These fluctuations could cause stockholders to lose all or part of their investment in our common stock. Factors that could cause fluctuations in the trading price of our common stock include the following:

- actual or anticipated quarterly variation in our results of operations or the results of our competitors;
- announcements by us or our competitors of new products, significant contracts or commercial relationships;
- adverse regulatory announcements;
- issuance of new or changed securities analysts’ reports or recommendations for our stock;
- developments or disputes concerning our intellectual property or other proprietary rights;
- commencement of, or our involvement in, litigation;
- volatility and uncertainty in U.S. and international markets resulting from the spread of COVID-19 and related containment and mitigation measures;
- market conditions in the research market;
- manufacturing disruptions;
- any future sales of our common stock or other securities;
- any change to the composition of the board of directors or key personnel;
- announcements by us or our competitors of significant acquisitions or divestitures, strategic partnerships, joint ventures or capital commitments;
- general economic conditions and slow or negative growth of our markets; and
- the other factors described in this “Risk Factors” section.

The stock market in general, and market prices for the securities of life sciences companies like ours in particular, have from time to time experienced volatility that often has been unrelated to the operating performance of the underlying companies. These broad market and industry fluctuations may adversely affect the market price of our common stock,

regardless of our operating performance. In several recent situations where the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders were to bring a lawsuit against us, the defense and disposition of the lawsuit could be costly and divert the time and attention of our management and harm our operating results and negatively impact the trading price of our common stock.

If securities or industry analysts do not publish research reports about our business, or if they issue an adverse opinion about our business, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. If one or more of the analysts who cover us issues an adverse opinion about our company, our stock price would likely decline. If one or more of these analysts ceases coverage of us or fails to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

Future sales of our common stock in the public market could cause our stock price to fall.

Our stock price could decline as a result of sales of a large number of shares of our common stock or the perception that these sales could occur, including by our officers, directors and their respective affiliates. These sales, or the possibility that these sales may occur, also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate.

We register the offer and sale of all shares of common stock that we may issue under our equity compensation plans. In addition, in the future, we may issue additional shares of common stock or other equity or debt securities convertible into common stock in connection with a financing, acquisition, litigation settlement, employee arrangements or otherwise. For example, in March 2020, we sold $230 million aggregate principal amount of 2.625% Convertible Senior Notes due 2025 in a private placement to qualified institutional buyers for net proceeds of $222.6 million and in October 2020, we sold an aggregate of 5,750,000 shares of common stock in an underwritten public offering for net proceeds of $215.8 million. Any such future issuance could result in substantial dilution to our existing stockholders and could cause our stock price to decline.

We have broad discretion over the use of the proceeds to us from our March 2020 convertible notes offering and October 2020 underwritten public offering and may apply the proceeds to uses that do not improve our operating results or the value of your securities.

We have broad discretion over the use of proceeds to us from our March 2020 convertible notes offering and October 2020 underwritten public offering and investors will be relying solely on the judgment of our board of directors and management regarding the application of these proceeds. Our use of the proceeds may not improve our operating results or increase the value of the securities offered pursuant to the foregoing fundraising transactions.

Servicing our convertible notes may require a significant amount of cash, and we may not have sufficient cash flow or the ability to raise the funds necessary to satisfy our obligations under the notes, and our current and future indebtedness may limit our operating flexibility or otherwise affect our business.

Our ability to make scheduled payments of the principal of, to pay interest on or to refinance any current or future indebtedness, including the notes, or to make cash payments in connection with any conversion of notes or upon any fundamental change if note holders require us to repurchase their notes for cash, depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not generate cash flow from operations in the future sufficient to service our indebtedness and make necessary capital expenditures. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring indebtedness or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to refinance our indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations. In addition, our existing and future indebtedness could have important consequences to our stockholders and significant effects on our business. For example, it could:

- make it more difficult for us to satisfy our debt obligations, including the notes;
- increase our vulnerability to general adverse economic and industry conditions;
- require us to dedicate a substantial portion of our cash flow from operations to payments on our indebtedness, thereby reducing the availability of our cash flow to fund working capital and other general corporate purposes;
- limit our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate;

- restrict us from exploiting business opportunities;
- place us at a competitive disadvantage compared to our competitors that have less indebtedness; or
- limit our availability to borrow additional funds for working capital, capital expenditures, acquisitions, debt service requirements, execution of our business strategy or other general purposes.

Transactions relating to our notes may dilute the ownership interest of existing stockholders, or may otherwise depress the price of our common stock.

If the notes are converted by holders, we have the ability under the indenture for the notes to deliver cash, common stock, or any combination of cash or common stock, at our election upon conversion of the notes. If we elect to deliver common stock upon conversion of the notes, it would dilute the ownership interests of existing stockholders. Any sales in the public market of the common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. In addition, certain holders of the notes may engage in short selling to hedge their position in the notes. Anticipated future conversions of such notes into shares of our common stock could depress the price of our common stock.

Anti-takeover provisions in our charter documents and under Delaware or Washington law could make an acquisition of us difficult, limit attempts by our stockholders to replace or remove our current management and limit our stock price.

Provisions of our certificate of incorporation and bylaws may delay or discourage transactions involving an actual or potential change in our control or change in our management, including transactions in which stockholders might otherwise receive a premium for their shares, or transactions that our stockholders might otherwise deem to be in their best interests. Therefore, these provisions could adversely affect the price of our stock. Among other things, the certificate of incorporation and bylaws:

- permit the board of directors to issue up to 15,000,000 shares of preferred stock, with any rights, preferences and privileges as they may designate;
- provide that the authorized number of directors may be changed only by resolution of the board of directors;
- provide that all vacancies, including newly-created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- divide the board of directors into three classes;
- provide that a director may only be removed from the board of directors by the stockholders for cause;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and may not be taken by written consent;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide notice in writing in a timely manner, and meet specific requirements as to the form and content of a stockholder's notice;
- prevent cumulative voting rights (therefore allowing the holders of a plurality of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose);
- provide that special meetings of our stockholders may be called only by the chairman of the board, our chief executive officer or by the board of directors; and
- provide that stockholders are permitted to amend the bylaws only upon receiving at least two-thirds of the total votes entitled to be cast by holders of all outstanding shares then entitled to vote generally in the election of directors, voting together as a single class.

In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which generally prohibits a Delaware corporation from engaging in any of a broad range of business combinations with any "interested" stockholder for a period of three years following the date on which the stockholder became an "interested" stockholder. Likewise, because our principal executive offices are located in Washington, the anti-takeover provisions of the Washington Business Corporation Act may apply to us under certain circumstances now or in the future. These provisions prohibit a "target corporation" from engaging in any of a broad range of business combinations with any stockholder constituting an "acquiring person" for a period of five years following the date on which the stockholder became an "acquiring person."

Complying with the laws and regulations affecting public companies increases our costs and the demands on management and could harm our operating results.

As a public company, we incur and will continue to incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act and rules subsequently implemented by the SEC and The

Nasdaq Global Market impose numerous requirements on public companies, including requiring changes in corporate governance practices. Also, the Exchange Act requires, among other things, that we file annual, quarterly and current reports with respect to our business and operating results. Our management and other personnel must devote a substantial amount of time to compliance with these laws and regulations. These burdens may increase as new legislation is passed and implemented, including any new requirements that the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 may impose on public companies. These requirements have increased and will likely continue to increase our legal, accounting, and financial compliance costs and have made and will continue to make some activities more time consuming and costly. For example, as a public company it is more difficult and more expensive for us to obtain director and officer liability insurance, and in the future we may be required to accept reduced policy limits and coverage or to incur substantial costs to maintain the same or similar coverage. These rules and regulations could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors or our board committees or as executive officers.

The Sarbanes-Oxley Act requires the SEC to implement new requirements on registrants, and these new requirements that were implemented require, among other things, that we assess the effectiveness of our internal control over financial reporting annually and assess the effectiveness of our disclosure controls and procedures quarterly. In particular, Section 404 of the Sarbanes-Oxley Act, or Section 404, requires us to perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on, and our independent registered public accounting firm to attest to, the effectiveness of our internal control over financial reporting. The cost of our compliance with Section 404 has correspondingly increased. Our compliance with applicable provisions of Section 404 requires that we incur substantial accounting expense and expend significant management time on compliance-related issues as we implement additional corporate governance practices and comply with reporting requirements. For example, management concluded that our internal controls over financial reporting were not effective as of December 31, 2019 and 2018, resulting in extensive remediation efforts during 2019 and 2020, including increased staffing and investments in additional technology and other expenses. While we have since remediated the material weakness through our efforts in 2020, maintaining adequate internal control over financial reporting will continue to require significant management attention and the incurrence of additional expense.

Furthermore, investor perceptions of our company may suffer as a result of material weakness findings in our internal controls, and this could cause a decline in the market price of our stock. Irrespective of compliance with Section 404, any failure of our internal control over financial reporting could have a material adverse effect on our stated operating results and harm our reputation. If we are unable to avoid future material weaknesses, our operations, financial reporting, or financial results could be harmed, and any such material weakness findings could result in an adverse opinion on our internal control over financial reporting from our independent registered public accounting firm.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

We currently have four long-term operating lease agreements for 134,296 square feet of space used for general office, laboratory, manufacturing, operations, and research and development purposes in the greater Seattle, Washington area. The long-term operating leases in the greater Seattle, Washington area expire beginning in 2026 through 2030 and include options to renew at the then fair market rental for each of the facilities. The lease agreements contain rent abatement periods, scheduled rent increases and provide for tenant improvement allowances. In addition, we have four office leases outside of the greater Seattle, Washington area, totaling approximately 2,252 square footage, with terms between one and four years.

Our landlords hold security deposits of approximately $1.9 million. We believe that our existing facilities are adequate to meet our business requirements for the near-term and that additional space will be available on commercially reasonable terms, if required.

Item 3. Legal Proceedings

We are not engaged in any material legal proceedings. From time to time, we may become involved in litigation relating to claims arising from the ordinary course of business. We believe that there are no claims or actions pending against us currently, the ultimate disposition of which would have a material adverse effect on our consolidated results of operation, financial condition or cash flows.

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 Global Market under the symbol "NSTG." Trading of our common stock commenced on June 26, 2013 in connection with our initial public offering.

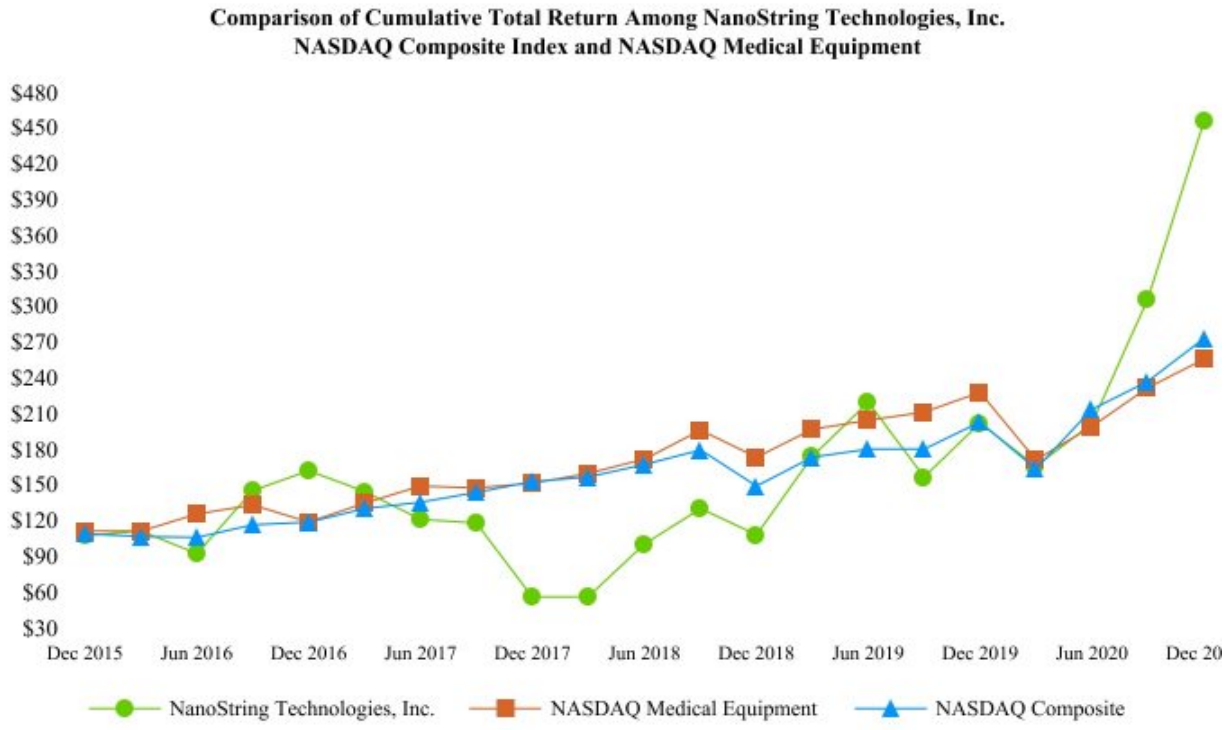
Holders

As of February 22, 2021, there were approximately 19 holders of record of our common stock. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees.

Performance Graph

This performance graph shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or incorporated by reference into any filing of NanoString Technologies, Inc. under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

The following graph compares the performance of our common stock for the periods indicated with the performance of the Nasdaq Composite Index and the Nasdaq Medical Equipment Index. This graph assumes an investment of $100 on December 31, 2015 in each of our common stock, the Nasdaq Composite Index and the Nasdaq Medical Equipment Index, and assumes reinvestment of dividends, if any. The stock price performance shown on the graph below is not necessarily indicative of future stock price performance.



Recent Sales of Unregistered Securities

On December 16, 2020 we issued an aggregate of 6,994 shares of our common stock to a warrant holder upon the full exercise of an outstanding warrant to purchase an aggregate of 2,939 shares of our common stock and an outstanding warrant to purchase an aggregate of 5,878 shares of our common stock, in each case pursuant to a net exercise mechanism under the warrants. Each warrant had an exercise price of $14.3968 per share. The issuances of these shares were exempt from registration under the Securities Act of 1933, as amended, pursuant to Section 3(a)(9) thereof as an exchange with an existing security holder where no commission or other remuneration is paid or given for soliciting such exchange.

Securities Authorized for Issuance under Equity Compensation Plans

The following table summarizes information about our equity compensation plans as of December 31, 2020. All outstanding awards relate to our common stock.

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	(b) Weighted Average Exercise Price of Outstanding Options, Warrants and Rights	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) [1]
Equity compensation plans approved by security holders:			
2004 Stock Option Plan	239,132	$ 3.75	—
2013 Equity Incentive Plan	3,932,987	$ 10.02	1,646,487
2013 Employee Stock Purchase Plan	—	N.A.	536,443
Equity compensation plans not approved by security holders[2]:	63,126	$ 15.09	70,000
Total	4,235,245	N.A.	2,252,930

[1] Our 2013 Equity Incentive Plan includes provisions providing for an annual increase in the number of securities available for future issuance on the first day of each fiscal year, equal to the least of: (a) 1,406,250 shares; (b) 5% of the outstanding shares of common stock as of the last day of the immediately preceding fiscal year; and (c) such other amount as the board of directors may determine. Our 2013 Employee Stock Purchase Plan includes provisions providing for an annual increase in the number of securities available for future issuance on the first day of each fiscal year, equal to the least of: (a) 1% of the outstanding shares of common stock on the first day of such fiscal year; (b) 281,250 shares; and (c) such other amount as the board of directors, or a committee appointed by the board of directors, may determine.

[2] On January 15, 2018, our board of directors adopted the NanoString Technologies, Inc. 2018 Inducement Equity Incentive Plan, or the Inducement Plan, and, subject to the adjustment provisions of the Inducement Plan, reserved 250,000 shares of our common stock for issuance pursuant to equity awards granted under the Inducement Plan. The Inducement Plan was adopted without stockholder approval pursuant to Rule 5635(c)(4) and Rule 5635(c)(3) of the Nasdaq Listing Rules. The Inducement Plan provides for the grant of equity-based awards, including nonstatutory stock options, restricted stock units, restricted stock, stock appreciation rights, performance shares and performance units, and its terms are substantially similar to our 2013 Equity Incentive Plan, including with respect to treatment of equity awards in the event of a “merger” or “change in control” as defined under the Inducement Plan, but with such other terms and conditions intended to comply with the Nasdaq inducement award exception or to comply with the Nasdaq acquisition and merger exception. However, our 2013 Equity Incentive Plan permits certain exchange programs (including repricings) without stockholder approval, while the Inducement Plan requires stockholder approval for such exchange programs.

Item 6. Selected Financial Data

Reserved.

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

You should read the following discussion and analysis together with the financial statements and the related notes to those statements included elsewhere in this report. This discussion contains forward-looking statements that involve risks and uncertainties. As a result of many factors, such as those set forth in the section of this report captioned "Risk Factors" and elsewhere in this report, our actual results may differ materially from those anticipated in these forward-looking statements. Throughout this discussion, unless the context specifies or implies otherwise, the terms "NanoString", "we", "us" and "our" refer to NanoString Technologies, Inc. and its subsidiaries.

Overview

We develop, manufacture and sell products that unlock scientifically valuable and clinically actionable information from minute amounts of biological material. Our core technology includes unique, proprietary chemistries that enable the labeling and counting of single molecules. Our mission is to incorporate our core technology into proprietary product platforms that enable our customers to map the universe of biology.

We use our core technology to develop tools for scientific and clinical research, primarily in the fields of genomics and proteomics. Our proprietary chemistries may reduce the number of steps required to conduct certain types of scientific experiments and allow for multiple experiments to be conducted at once. Our platforms are also able to extract information from multiple types of biological samples, including those that are often challenging to work with using other scientific methods or platforms. As a result, we are able to develop tools that are easier for researchers to use and that may generate faster and more consistent scientific results.

We currently offer two commercially available product platforms: our nCounter Analysis System and our GeoMx Digital Spatial Profiling, or DSP, system, both of which include instruments, related consumables and software. We also have a new product platform candidate, our Spatial Molecular Imager, or SMI, currently under development.

nCounter was launched in 2008 and was our first commercially available product platform. It can be used to analyze the activity of up to 800 genes in a single experiment. nCounter is also used by clinicians to analyze gene activity relevant for diagnostic applications. nCounter is used to conduct what is known as bulk gene activity, or gene expression, analysis, whereby biological samples are first reduced, and then the level of gene expression is measured at its average level throughout the totality of the sample.

GeoMx DSP, which was launched in 2019 and is our second commercially available product platform. It is designed to enable the field of spatial biology. While nCounter and other predominantly used gene expression analysis technologies use bulk analysis approaches, GeoMx DSP is used to analyze specifically selected regions of an intact biological sample in order to see how gene expression might vary across those regions, or in certain cell types. GeoMx DSP operates by enabling users to prepare and select certain regions of a biological sample in which to study gene expression without the need to reduce or destroy the sample. Researchers then use our nCounter system or NGS to subsequently evaluate, or "read out" gene expression activity in each of the selected regions.

We derive a substantial majority of our revenue from the sale of our products, which consist of our nCounter and GeoMx DSP instruments and related proprietary consumables. Our instruments are designed to work only with our consumable products. Accordingly, as the installed base of instruments grows, we expect recurring revenue from consumable sales to become an increasingly important driver of our operating results. Our consumables include our standardized nCounter and GeoMx DSP panel products, and nCounter custom CodeSet products that contain a specific set of targets for scientific analysis as requested by a customer. We also derive service revenue from processing fees related to proof-of-principle studies, including from our GeoMx DSP technology access program, or TAP, which we conduct for potential customers. For both our nCounter and GeoMx DSP systems, we also offer and derive revenue from extended service contracts. Additionally, we generate revenue through product development collaborations.

We market and sell our instruments and related consumables to researchers in academic, government and biopharmaceutical laboratories for research use, both through our direct sales force and through distributors in certain markets. As of December 31, 2020, we had an installed base of approximately 950 nCounter systems, which our customers have used to publish more than 4,000 peer-reviewed papers. As of December 31, 2020, we had shipped more than 160 GeoMx DSP systems to customer sites and had installed approximately 130 systems. As of December 31, 2020, 35 peer-reviewed publications have been published utilizing our GeoMx DSP technology.

In advance of and subsequent to our recent commercial launch of GeoMx DSP, pursuant to our TAP we have offered selected customers the opportunity to send biological samples to our Seattle facilities to be analyzed by us using GeoMx DSP. Upon completion of each project, the raw data and analysis report is provided to the customer and service revenue is recorded by us. As of December 31, 2020, we have conducted over 430 TAP projects for approximately 200 customers.

We use third-party contract manufacturers to produce the instruments comprising our nCounter and GeoMx DSP systems. We manufacture consumables at our greater Seattle, Washington area facilities.

We focus a substantial portion of our resources on developing new technologies, products and solutions. Research and development expense totaled $62.9 million, $68.0 million and $61.6 million in 2020, 2019 and 2018, respectively. We intend to continue to incur significant investments in research and development expenses to support and expand our existing instrument platforms and related consumable offerings, as well as to research and develop new technologies and product platforms.

In December 2019, we entered into a License and Asset Purchase Agreement, or LAPA, and service and supply agreements, or SSAs, with Veracyte, Inc, or Veracyte. Pursuant to the LAPA, we completed a license of intellectual property and a sale of certain assets to Veracyte relating to our nCounter FLEX system for use in clinical diagnostic applications. Veracyte also acquired certain intellectual property rights and worldwide distribution rights relating to our Prosigna Breast Cancer Assay and our LymphMark assay and certain clinical diagnostic assay software modules that operate with the nCounter FLEX system. Pursuant to the terms of the LAPA, Veracyte paid us $50.0 million, consisting of $40.0 million in cash, paid in connection with the entry into the LAPA, and 376,732 shares of Veracyte common stock valued at $10.0 million, which shares were issued in connection with the entry into the LAPA. Additionally, we may receive future potential milestone payments of up to $10.0 million in the aggregate, to be paid upon the launch of additional clinical diagnostic tests by Veracyte for our nCounter FLEX platform. Pursuant to the SSAs, we agreed to supply to Veracyte nCounter FLEX systems, and to manufacture and supply Prosigna kits, LymphMark kits and any additional clinical diagnostic tests that Veracyte may develop in the future for nCounter, for a period of at least four years subsequent to the transaction date. Pursuant to the SSAs, Veracyte will pay the designated transfer prices for nCounter FLEX systems, Prosigna kits, LymphMark kits and any other nCounter-based diagnostic tests developed by Veracyte.

Our product and service revenue increased 7% to $111.4 million in 2020, compared to $103.7 million in 2019. The increase was driven primarily by increased revenues from our sales of GeoMx DSP systems and related consumables. The increases were offset by declines in sales of nCounter consumables primarily as a result the COVID-19 pandemic impact on our customers, certain of which implemented full or partial closures of their lab operations during various periods throughout 2020. In addition, while greater unit sales of Prosigna kits were recorded as compared to 2019, our revenues recorded from the sale of Prosigna kits were lower, as our Prosigna supply agreement entered into as part of the transaction with Veracyte completed in December 2019 reduced our average selling price received on Prosigna kits, which in prior periods had been sold directly to end user customers or distributors. Our product and service revenue increased 24% to $103.7 million in 2019, compared to $83.5 million in 2018. The increase was driven primarily by increased revenue from nCounter consumables associated with our growing installed base of nCounter systems, revenue recognized during the second half of 2019 related to the initial commercial shipments of GeoMx DSP systems and increases in revenue related to our GeoMx DSP TAP.

Our total revenue in 2020 was $117.3 million, compared to $125.6 million in 2019 and $106.7 million in 2018. Our total revenue has varied more significantly as compared to our product and service revenue, as a result of the timing of revenue recognition associated with our collaboration agreements. Revenue recognition relating to these agreements, which is recorded as collaboration revenue, consists primarily of recognizing deferred revenue relating to cash payments received previously from our collaborators. Collaboration revenue recognized may vary significantly depending on the timing and cost of certain research and development activities relating to a collaboration, the expected time frame for completing certain collaboration activities, the outcome of research and development activities being conducted pursuant to a collaboration, the contractual terms of a particular collaboration agreement and other factors.

We have never been profitable and had net losses of $110.1 million, $40.7 million and $77.4 million in 2020, 2019 and 2018, respectively. As of December 31, 2020, our accumulated deficit was $542.0 million.

Key Financial Metrics

We are organized as, and operate in, one reportable segment: the development, manufacture and commercialization of instruments, consumables and services for efficiently profiling the activity of hundreds of genes and proteins simultaneously from a single tissue sample. Our chief operating decision maker is the chief executive officer, who manages our operations and evaluates our financial performance on a total company basis. Our principal operations and decision-making functions are located at our corporate headquarters in the United States.

Revenue

We generate revenue from the sale of our products and related services and collaborations. For a description of our revenue recognition policies, see the section of this report captioned "—Critical Accounting Policies and Significant Estimates—Revenue Recognition."

Product Revenue

Our product revenue consists of sales of our nCounter Analysis Systems and related consumables and our GeoMx DSP systems and related consumables. Our nCounter MAX Analysis System typically consists of one nCounter Digital Analyzer and one nCounter Prep Station, having a U.S. list price of $235,000. The U.S. list price of the similarly configured nCounter FLEX Analysis System is $265,000. Our nCounter SPRINT Profiler has a reduced footprint and combines the function of the prep station with the digital analyzer in a single instrument. It has a U.S. list price of $149,000. Our GeoMx DSP system has a U.S. list price of $295,000.

Outside the United States, depending on the country, list prices are generally higher. In certain cases, customers may pay less than the list price for our various nCounter instruments. For example, some of our systems are sold to customers through independent distributors, and these distributors may purchase systems from us at a discount to list price. In certain regions outside of the US, we sell through distribution partners who typically receive discounted prices. In addition, in some cases we may sell an nCounter system and a GeoMx DSP system together as a bundle, or we may sell a system together with an initial order of consumables for a single price, in which cases we may offer discounted prices for instruments as compared to list prices.

Our customer base is primarily composed of academic institutions, government laboratories, biopharmaceutical companies and clinical laboratories that perform analyses or testing using our nCounter Analysis and GeoMx DSP systems and purchase related consumables.

For our research customers, related consumables include standardized and pre-manufactured kits, or panels, that are designed to measure the expression of a pre-selected set of genes. For nCounter, we also offer custom CodeSets, which we manufacture to the specific requirements of an individual researcher, and Master Kits, cartridges and reagents, which are ancillary reagents, cartridges, tips and reagent plates required to setup and process samples in our instruments.

Pursuant to the LAPA with Veracyte entered into in 2019, we now sell our nCounter Prosigna *in vitro* diagnostic kits to Veracyte, who then sells Prosigna to end user customers or distributors.

Our average annualized consumables revenue per installed nCounter Analysis System was approximately $51,000 for the year ended December 31, 2020, which includes our consumable sales and Prosigna. Our average annualized consumables revenue per installed GeoMx DSP was approximately $82,000 for the year ended December 31, 2020.

Service Revenue

Service revenue consists of fees associated with service contracts and conducting proof-of-principle studies. We include a one-year warranty with the sale of our instruments and offer service contracts, which are purchased by a majority of our customers. We selectively provide proof-of-principle studies and/or TAP to prospective customers in order to help them better understand the benefits primarily of our GeoMx DSP system or other technologies under development, for which we generate data and perform analysis services on their behalf.

Collaboration Revenue

Collaboration revenue has been derived primarily from our collaborations with Lam, and historically, our terminated collaborations with Celgene and Merck. As of December 31, 2020, we have recorded collaboration revenue of $5.9 million, $21.9 million and $23.2 million in 2020, 2019 and 2018, respectively. As of December 31, 2020, we do not expect to receive further development funding from Lam in future periods, and the original commitment from Lam to provide up to $50.0 million in development funding was fully satisfied in 2019. Collaboration revenue also includes revenue recognized under several smaller collaborations.

Revenue by Geography

We sell our products through our own sales forces in the United States, Canada, certain European countries and also various countries within the Asia Pacific region, including China, India, Japan and Singapore, among others. We also sell through distributors in other parts of the world. As we have expanded our European direct sales force and entered into agreements with distributors of our products in Europe, the Middle East, Asia Pacific and South America, the amount of revenue generated outside of North America has generally increased, although there have been significant quarter-to-quarter fluctuations. In the future, we intend to continue to expand our sales force and establish additional distributor relationships outside the United States to better access international markets.

The following table reflects total revenue by geography based on the geographic location of our customers, distributors and collaborators. For sales to distributors, their geographic location may be different from the geographic locations of the ultimate end customer. Americas consists of the United States, Canada, Mexico and South America; and Asia Pacific includes Japan, China, South Korea, Singapore, Malaysia, Vietnam, Thailand, India and Australia.

	Year Ended December 31,					
	2020		2019		2018	
	(Dollars in thousands)					
Americas	$ 79,787	68 %	$ 86,139	69 %	$ 74,137	70 %
Europe & Middle East	26,897	23 %	30,289	24 %	25,715	24 %
Asia Pacific	10,632	9 %	9,140	7 %	6,880	6 %
Total revenue	$ 117,316	100 %	$ 125,568	100 %	$ 106,732	100 %

Most of our revenue is denominated in U.S. dollars. Changes in foreign currency exchange rates have not materially affected us to date; however, they may become material to us in the future if our operations outside of the United States expand.

Cost of Product and Service Revenue

Cost of product and service revenue consists primarily of costs incurred in the production process, including costs of purchasing instruments from third-party contract manufacturers, consumable component materials and assembly labor and overhead, packaging and delivery, installation, warranty and any follow-on servicing related costs. In addition, cost of product and service revenue includes royalty costs for licensed technologies included in our products, provisions for slow-moving and obsolete inventory and non-cash expenses including depreciation and amortization associated with various assets used in the production of our products and stock-based compensation expense. We provide a one-year warranty on each nCounter Analysis System and GeoMx DSP system and we establish a reserve for warranty repairs based on historical warranty repair costs incurred.

Operating Expenses

Research and Development

Research and development expenses consist primarily of salaries and benefits, occupancy costs, laboratory supplies, engineering services, consulting fees, costs associated with licensing molecular diagnostics rights and clinical study expenses and non-cash expenses including depreciation and amortization associated with various assets used in the research and development of our products and stock-based compensation expense.

We have made substantial investments in research and development since our inception. Our research and development efforts have focused primarily on the tasks required to enhance our technologies and to support development and commercialization of new and existing products and applications. We believe that our continued investment in research and development is essential to our long-term competitive position and expect to continue to make investments in research and development activities, with an expected focus on spatial genomics.

To date, we have found that it has been effective for us to manage our research and development activities on a departmental basis. Accordingly, other than pursuant to terms of certain of our collaborations, we have neither required employees to report their time by project nor allocated our research and development costs to individual projects.

Research and development expense by functional area was as follows:

	Year Ended December 31,		
	2020	2019	2018
	(In thousands)		
Research and discovery	$ 33,530	$ 35,332	$ 28,634
Manufacturing, support and services	9,042	6,215	1,794
Product and process engineering	8,918	9,371	13,001
Regulatory and medical affairs	1,633	10,396	12,443
Facilities and overhead	9,734	6,721	5,727
Total research and development expense	$ 62,857	$ 68,035	$ 61,599

Selling, General and Administrative

Selling, general and administrative expense consists primarily of costs for our sales and marketing, finance, human resources, information technology, business development, legal and general management functions, as well as professional fees for legal, consulting and accounting services and non-cash expenses including primarily stock-based compensation expense.

Factors Affecting Our Performance

We believe that our financial performance has been and in the foreseeable future will continue to be primarily driven by the following factors. While each of these factors presents significant opportunities for our business, they also pose important challenges that we must successfully address in order to sustain our growth and improve our results of operations. Our ability to successfully address the factors below is subject to various risks and uncertainties, including those described under the heading “Risk Factors.”

The COVID-19 pandemic has impacted our ability to solicit and fulfill customer orders, and record related product and service revenue. The slower pace at which we are receiving and delivering system, consumable and service orders has negatively impacted our 2020 revenue, including the comparability of revenue recorded to historical periods. While all revenue categories have been impacted due to lab closures and lower customer activity, nCounter-related consumables revenue has been impacted most substantively given our current higher installed base of nCounter systems. To the extent the COVID-19 pandemic continues to have a negative impact on our customers’ ability to conduct research, or our ability to actively engage with our customers or to receive and fulfill customer orders, we expect our near term revenues will continue to be negatively impacted. We expect consumables revenue to be more severely impacted by COVID-19, as consumables revenue more closely correlates with day-to-day customer research activity. We cannot predict with any certainty if, or how quickly, our customers will return to previous activity or product order levels, if any increase in activity or product order levels will be maintained, or our ability to resume our activities and operations and maintain them at levels consistent with past performance. Until the effects of the COVID-19 pandemic subside, we expect our near-term revenues may continue to be negatively impacted. With consideration to these near-term negative impacts on our business, we expect our product and service revenue may continue to increase in future periods, primarily as a result of the growth in sales of GeoMx DSP instruments and consumables.

Instrument Installed Base

Our future financial performance will be driven in part by the rate of adoption of our GeoMx DSP system, for which we commenced commercial shipments in the second half of 2019. As of December 31, 2020, we had shipped more than 160 GeoMx DSP systems to customer sites and we had installed approximately 130 systems. Future financial performance will also be driven by our ability to continue to grow the installed base of our nCounter Analysis Systems. As of December 31, 2020, we had an installed base of approximately 950 nCounter Analysis Systems. In addition, future product and service revenue may be impacted by the introduction of new product platforms.

We will continue to employ other strategies to increase the adoption rate of our instrument platforms, including expanding our sales channel in both direct and distributor territories, developing new consumable content for our nCounter and GeoMx platforms and enhancing certain features of our nCounter and GeoMx platforms. As part of this strategy, we have added incremental sales territories and augmented our field sales team, and have continued to grow our base of distributors. As our installed base of instruments grows, we solicit feedback from our customers and focus certain of our research and development efforts on improving our systems or enabling applications, which in turn helps to drive additional sales of our instruments.

Our instruments require a significant capital investment and, as a result, our instrument sales process involves numerous interactions with multiple individuals within an organization, and often includes in-depth analysis by potential customers of our products, performance of proof-of-principle studies, preparation of extensive documentation and a lengthy

review process. As a result of these factors, the significant capital investment required in purchasing our instruments and the budget cycles of our customers, the time from initial contact with a customer to our receipt of a purchase order can vary significantly, and may be up to 12 months or longer. Given the length and uncertainty of our sales cycle, we have in the past experienced, and likely will in the future experience, fluctuations in our instrument sales on a period-to-period basis.

Recurring Consumables Revenue

Our instruments are designed to be used only with our consumables. This closed system model generates recurring revenue from each instrument we sell. Management focuses on recurring consumable revenue per system as an indicator of the continuing value generated by each system. Quarterly, we calculate recurring annualized consumables revenue per system (also known as pull-through) by dividing related annualized consumables revenue recognized in a particular quarter (other than consumables revenue related to proof-of-principle studies) by the total number of installed systems as of the last day in the immediately preceding quarter. We calculate the average annualized consumable pull-through per instrument by dividing related consumables revenue recognized during the year (other than consumables revenue related to proof-of-principle studies) by the average total number of installed systems as of the last day in the immediately preceding quarter for each of the preceding four quarters. Historically, the majority of our systems and related consumables have been sold to research customers.

Our average annualized consumable pull-through per installed nCounter system was approximately $51,000 and $80,000 for the years ended December 31, 2020 and 2019, respectively. The lower nCounter consumable pull-through in 2020 was primarily due to the impact of the COVID-19 pandemic on our customers' ability to access their laboratories to conduct research, complete purchases and receive product shipments for a substantial portion of 2020. In addition, while greater unit sales of Prosigna kits were recorded as compared to 2019, our revenues recorded from the sale of Prosigna kits were lower, as our Prosigna supply agreement entered into as part of the transaction with Veracyte completed in December 2019 reduced our average selling price received on Prosigna kits, which in prior periods had been sold directly to end user customers or distributors.

Our average annualized consumable pull-through per installed GeoMx DSP system was approximately $82,000 for the year ended December 31, 2020.

As the installed base of our instrument platforms expands, consumables revenue is expected to increase. Our consumables revenue per installed system may fluctuate in the future, reflecting the mix of our installed instruments, and potential shifts in the mix, or type, of consumables sold to our installed customer base. In addition, subsequent to entering into the LAPA with Veracyte in December 2019, we are no longer selling Prosigna kits directly to third parties and are now manufacturing and supplying Prosigna kits exclusively to Veracyte at designated transfer prices, which has and will continue to result in a decrease in revenue and gross margins associated with Prosigna kits.

The COVID-19 pandemic has impacted our consumables revenue most substantively, given the impact on our customers' ability to conduct research or our ability to actively engage with our customers or to receive and fulfill customer orders.We expect our consumables revenue may continue to be more severely impacted by COVID-19, as consumables revenue more closely correlates with day-to-day customer research activity. We cannot predict with any certainty if, or how quickly, our customers will return to previous activity or product order levels, if any increase in activity or product order levels will be maintained, or our ability to resume our activities and operations and maintain them at levels consistent with past performance. With consideration to these near-term negative impacts on our business, we expect our consumables revenue may continue to increase in future periods, as a result of the growth in sales of GeoMx DSP consumables and the introduction of new nCounter and GeoMx DSP consumable products, as well as the continued growth in the installed base of our nCounter and GeoMx DSP systems.

Other Revenue Sources

We derive service revenue from service contracts, which are purchased by a majority of our customers. Additionally, we selectively provide and generate revenue from services such as TAP or other proof-of-principle studies, which are designed to demonstrate for prospective customers the performance of our existing product platforms and certain new technologies that are under development.

Collaboration revenue has been primarily derived from our collaboration with Lam, and historically, our collaborations with Celgene and Merck. We expect collaboration revenue to remain a significantly smaller portion of our total revenues in future periods due to the conclusion or termination of the substantial majority of our previous collaboration agreements.

Revenue Mix and Gross Margin

Our product revenue is derived from sales of nCounter Analysis System and GeoMx DSP instruments and related consumables. Generally, our consumables have higher gross margins than our instruments. Our GeoMx DSP instruments, which commenced shipping during 2019, contribute a higher average gross margin as compared to our nCounter instrument platforms. There may be fluctuations in sales mix between instruments and consumables from period to period.In addition, while greater unit sales of Prosigna kits were recorded as compared to 2019, our revenues recorded from the sale of Prosigna kits were lower, as our Prosigna supply agreement entered into as part of the transaction with Veracyte completed in December 2019 reduced our average selling price received on Prosigna kits, which in prior periods had been sold directly to end user customers or distributors.

Given our limited selling and marketing experience with GeoMx DSP, our orders and sales may not meet our and analysts' expectations. Our future results may vary period to period and as our installed base of systems grows, consumables may continue to constitute a larger percentage of total product revenue, which would tend to increase our gross margins. Such gross margin increases may be offset by the mix of consumable products sold or the introduction of new instrument product platforms that become increasing components of our product sales, such as our expected SMI platform. In certain regions outside of the US, we sell through distribution partners who typically receive discounted prices. Future instrument selling prices and gross margins may fluctuate as we grow our volume of distribution partners in geographies outside of the United States, as we introduce new products and reduce our product costs, and from variability in the timing of new product introductions.

In addition to seeking to increase sales of our existing nCounter and GeoMx DSP platforms and consumables, we will continue to employ other growth strategies, including expanding our sales channel in both direct and distributor territories, developing new consumable content for our nCounter and GeoMx platforms and enhancing certain features of our both of these platforms. As part of this strategy, during 2018, 2019 and 2020, we have added incremental sales territories and augmented our field sales team, and have continued to grow our base of distributors.

Results of Operations

Comparison of Years Ended December 31, 2020 and 2019

Revenue

	Year Ended December 31,				Change	
	2020		2019		Dollars	Percentage
	(Dollars in thousands)					
Product revenue:						
Instruments	$ 47,830	41 %	$ 31,074	25 %	$ 16,756	54%
Consumables	50,097	42 %	61,004	48 %	(10,907)	(18)%
Total product revenue	97,927	83 %	92,078	73 %	5,849	6%
Service revenue	13,517	12 %	11,636	10 %	1,881	16%
Total product and service revenue	111,444	95 %	103,714	83 %	7,730	7%
Collaboration revenue	5,872	5 %	21,854	17 %	(15,982)	(73)%
Total revenue	$ 117,316	100 %	$ 125,568	100 %	$ (8,252)	(7)%

Instrument revenue for the year ended December 31, 2020 increased as compared to the prior year, due primarily to the first full year of commercial shipments of our GeoMx DSP system. The increase in instrument revenue was partially offset by lower revenue from sales of our nCounter instruments as compared to the prior year primarily as a result of the impact of the COVID-19 pandemic on certain of our customers, including full or partial closures of their operations or facilities and their resulting inability to complete purchases or receive product shipments for a substantial portion of the current year.

Consumables revenue includes sales of consumables for both nCounter and GeoMx DSP, and also includes sales of Prosigna *in vitro* diagnostic kits to our partner Veracyte. Consumables revenue decreased for the year ended December 31, 2020 with multiple factors impacting consumables revenue as compared to 2019. Sales of consumables for GeoMx DSP increased in 2020, as we had our first full year of sales following the commercial launch of GeoMx DSP in the second half of 2019. The GeoMx DSP consumable revenue contribution was offset by lower nCounter consumables revenue as compared to 2019, due primarily to the impact of the COVID-19 pandemic on our customers' ability to access their laboratories to conduct research, complete purchases and receive product shipments for a substantial portion of the current year. In addition, while greater unit sales of Prosigna kits were recorded as compared to 2019, our revenues recorded from the sale of Prosigna kits were lower, as our Prosigna supply agreement entered into as part of the transaction with Veracyte completed in December

2019 reduced our average selling price received on Prosigna kits, which in prior periods had been sold directly to end user customers or distributors.

Service revenue for the year ended December 31, 2020 increased as compared to 2019, due to increases in service revenue generated from TAP as well as increased revenue received from service contracts on our larger installed base of instruments as compared to the prior year.

The COVID-19 pandemic has impacted our ability to solicit and fulfill customer orders, and record related product and service revenue.

The slower pace at which we are receiving and delivering system, consumable and service orders has negatively impacted our 2020 revenue, including the comparability of revenue recorded to historical periods.

While all revenue categories have been impacted due to lab closures and lower customer activity, nCounter-related consumables revenue has been impacted most substantively given our current higher installed base of nCounter systems. To the extent the COVID-19 pandemic continues to have a negative impact on our customers' ability to conduct research, or our ability to actively engage with our customers or to receive and fulfill customer orders, we expect our near term revenues will continue to be negatively impacted. Notwithstanding the impact of the COVID-19 pandemic on our near term revenue, our product and service revenue may continue to increase in future periods as a result of the growth in sales of our GeoMx DSP instruments, the growth in sales of our nCounter and GeoMx DSP consumable products as driven by our increasing installed base of these systems, the introduction of new nCounter and GeoMx DSP consumable products and the potential introduction of new product platforms.

Collaboration revenue decreased for the year ended December 31, 2020 as compared to the prior year, due primarily to decreased activity levels after our receipt of the full commitment of development funding of $50.0 million from Lam during 2019 and to a lesser extent, our terminated collaboration with Celgene. Our collaboration agreement with Lam represented $4.8 million and $16.3 million of collaboration revenue for the years ended December 31, 2020 and 2019, respectively.

Cost of Product and Service Revenue; Gross Profit; and Gross Margin

	Year Ended December 31,		Change	
	2020	2019	Dollars	Percentage
	(Dollars in thousands)			
Cost of product and service revenue	$ 52,409	$ 44,039	$ 8,370	19%
Product and service gross profit	$ 59,035	$ 59,675	$ (640)	(1)%
Product and service gross margin	53 %	58 %		

For the year ended December 31, 2020, cost of product and service revenue increased as compared to the same periods in 2019, due to increased costs associated with the first full year of commercial shipments of GeoMx DSP, which commenced during the second half of 2019, coupled with investments made to support the growth, installation and service of our product lines, including investments to expand our production and distribution capacity in late 2019 and early 2020 in consideration of the commercial launch of GeoMx DSP. Our gross margin on product and service revenue for the year ended December 31, 2020 decreased compared to the prior year primarily as a result of lower nCounter consumables revenue as compared to the prior year due to the negative impacts of COVID-19, which in turn also resulted in greater instrument revenue as a percent of our total sales mix, with instrument sales generally contributing lower gross margins as compared to consumables sales. Our margins were negatively impacted in the current year by the impact of lower consumable revenue which resulted in excess manufacturing capacity absorbed in our cost of product and service revenue, and to a lesser extent, by the Prosigna supply agreement with Veracyte pursuant to which we sell Prosigna for a lower realized price, while our Prosigna production costs have generally remained unchanged from the prior year.

With consideration to the potential near term and uncertain negative impact of the COVID-19 pandemic on our business, which may impact our product and service revenue growth and the related costs incurred, we expect our cost of product and service revenue to increase in future periods. These potential increases would be coincident with anticipated growth in sales of GeoMx DSP instruments, continued sales growth of nCounter and GeoMx consumables and our TAP service. We also expect to make investments in our operations to support the growth of our business.

We expect our gross margin on product and service revenue may fluctuate in future periods. Variability will depend in part on the uncertain impact of the COVID-19 pandemic on our product and service revenue, in particular on our consumables revenue for which we operate the manufacturing process directly, as well on our relative level of instrument sales, for which we typically record lower gross margins as compared to our sales of our consumable products or services. In addition, our gross margins may vary depending on potential expenses we may incur for regulatory compliance, quality assurance or activities

related to the expansion of our manufacturing capacity. Costs related to collaboration revenue are included in research and development expense.

Research and Development Expense

	Year Ended December 31,		Change	
	2020	2019	Dollars	Percentage
	(Dollars in thousands)			
Research and development expense	$ 62,857	$ 68,035	$ (5,178)	(8)%

The decrease in research and development expense for the year ended December 31, 2020 primarily reflects reduced activities associated with diagnostic product development and clinical research, due to the conclusion or termination of certain of our previous collaboration agreements and as a result of the LAPA with Veracyte, which has subsequently reduced the ongoing diagnostic research and support associated with the Prosigna *in vitro* diagnostic kits as well as reduced travel expenses due to the COVID-19 pandemic. These decreases were partially offset by investments made in our continuing product development efforts related to GeoMx DSP and other potential new product platforms including investments in instrument and software development and consumables content and increased facility costs.

We expect research and development expense may increase in future periods, as a result of continued investment in GeoMx DSP and related consumables and the research and development of potential new product platforms and technologies. As of December 31, 2019, Lam had provided the full commitment of up to $50.0 million and we do not expect to receive any further funding from Lam in future periods.

Selling, General and Administrative Expense

	Year Ended December 31,		Change	
	2020	2019	Dollars	Percentage
	(Dollars in thousands)			
Selling, general and administrative expense	$ 90,097	$ 96,195	$ (6,098)	(6)%

The decrease in selling, general and administrative expense for the year ended December 31, 2020 is due to the COVID-19 pandemic significantly altering certain commercial activities during the period, including significantly lower travel and trade-show related costs and sales commissions. Additionally, selling related expenses were reduced as a result of the LAPA with Veracyte, pursuant to which our Prosigna-related direct sales and marketing resources were eliminated or transferred to Veracyte. These decreases were partially offset by continued investment in GeoMx DSP-related commercial initiatives, in particular investments made in our customer experience and service group, as well as certain digital marketing and related initiatives.

With consideration to the potential near term and uncertain negative impact of the COVID-19 pandemic on our business, which may impact our product and service revenue growth and the related costs incurred, we expect selling, general and administrative expenses to increase in future periods as the number of sales, technical support, marketing and administrative personnel grows to support the expected growth in our business and the potential introduction of new products and product platforms.

Other Income (Expense), net

	Year Ended December 31,		Change	
	2020	2019	Dollars	Percentage
	(Dollars in thousands)			
Gain on sale of business, net	$ —	$ 48,871	$ (48,871)	(100)%
Loss on extinguishment of debt and termination of revolving loan facility	(7,143)	—	(7,143)	N/A
Interest income	1,744	2,819	(1,075)	(38)%
Interest expense	(15,408)	(8,487)	(6,921)	82%
Other expense, net	(971)	(929)	(42)	5%
Total other income (expense), net	$ (21,778)	$ 42,274	$ (64,052)	(152)%

Pursuant to the terms of the LAPA completed in 2019, Veracyte paid us total consideration of $50.0 million, consisting of $40.0 million in cash paid in connection with the entry into the LAPA, and 376,732 shares of Veracyte common stock valued at $10.0 million, which shares were issued in connection with the entry into the LAPA. For the year ended December 31, 2019, we included an aggregate of $48.9 million as a separate line item in our consolidated statement of operations reflecting our gain on sale of business net of transaction costs of $1.1 million related to this transaction. There were no similar transactions during 2020.

Interest income decreased for the year ended December 31, 2020 due primarily to lower investment yields being available in the market resulting from the COVID-19 global pandemic as well as other broader macroeconomic conditions. We continue to maintain a cash preservation investment strategy and as a result, held the majority of our cash and cash equivalents in money market or other short duration fixed income positions for which yields were very low.

Interest expense increased for the year ended December 31, 2020 due primarily to an increase in our average outstanding debt balance during the year. The average balance of long-term debt outstanding during 2020 was $202.3 million as compared to $73.2 million for 2019, which reflects an increase in long-term debt related to our convertible debt financing completed during March 2020, which generated $230.0 million in gross proceeds. In conjunction with closing our convertible debt financing, we terminated our existing term loan facility with Capital Royalty Group and our revolving credit facility with Silicon Valley Bank, and as a result we recorded a charge of $7.1 million representing certain fees and prepayment penalties associated with these facilities. After taking into consideration the repayment of outstanding term debt, accrued interest expense and termination fees associated with these facilities, net proceeds from our convertible debt financing totaled approximately $130.0 million.

Other expense, net is comprised primarily of certain expenses for pending state and local tax obligations, as well as the unfavorable impact of fair value declines related to our equity securities. As of December 31, 2020, our holdings of Veracyte common stock equity securities have been sold pursuant to certain terms and conditions included within the LAPA and all net proceeds from the sale of the common stock have been included in our cash and cash equivalents.

Comparison of Years Ended December 31, 2019 and 2018

Revenue

	Year Ended December 31,				Change	
	2019		2018		Dollars	Percentage
	(Dollars in thousands)					
Product revenue:						
Instruments	$ 31,074	25 %	$ 21,441	20 %	$ 9,633	45%
Consumables	61,004	48 %	53,292	50 %	7,712	14%
Total product revenue	92,078	73 %	74,733	70 %	17,345	23%
Service revenue	11,636	10 %	8,790	8 %	2,846	32%
Total product and service revenue	103,714	83 %	83,523	78 %	20,191	24%
Collaboration revenue	21,854	17 %	23,209	22 %	(1,355)	(6)%
Total revenue	$ 125,568	100 %	$ 106,732	100 %	$ 18,836	18%

Instrument revenue for the year ended December 31, 2019 increased as compared to the prior year, due primarily to the first commercial shipments of our GeoMx DSP system. In addition, we experienced an increase in the number of nCounter FLEX and nCounter MAX instruments sold, which generally have higher average selling prices, as compared to the number of nCounter SPRINT instruments sold during the year. Consumables revenue increased for the year ended December 31, 2019, primarily as a result of our growing installed base of nCounter Analysis Systems, as well as growth in sales of our standardized panel consumable products. *In vitro* diagnostic kit revenue represents sales of Prosigna assays, which were approximately flat for the year ended December 31, 2019 as compared to the prior year. Prosigna revenues were impacted during the fourth quarter of 2019 subsequent to entering into the LAPA and Prosigna supply agreement with Veracyte, which reduced our average selling price on Prosigna kits sold during the period. Service revenue for the year ended December 31, 2019 increased, primarily related to growth in the number of projects relating to our GeoMx DSP technology access program, and, to a lesser extent, increases in the number of installed instruments covered by service contracts. Our product and service revenue may continue to increase in future periods as a result of the growth in sales of our GeoMx DSP instruments, the growth in sales of our nCounter and GeoMx DSP consumable products as driven by our increasing installed base of these systems and the introduction of new nCounter and GeoMx DSP consumable products.

Collaboration revenue decreased for the year ended December 31, 2019 as compared to the prior year, due primarily to changes in activity levels relating to our collaboration with Lam, and historically, our terminated collaborations with Merck. These decreases were partially offset by collaboration revenue recognized following the termination of our agreement with Celgene. Our collaboration agreement with Lam represented $16.3 million of collaboration revenue for the year ended December 31, 2019. Collaboration revenue related to our agreement with Lam was $18.6 million for the year ended December 31, 2018. As of December 31, 2019, we have received the total committed collaboration development funding of $50.0 million from Lam.

Cost of Product and Service Revenue; Gross Profit; and Gross Margin

	Year Ended December 31,		Change	
	2019	2018	Dollars	Percentage
	(Dollars in thousands)			
Cost of product and service revenue	$ 44,039	$ 36,331	$ 7,708	21%
Product and service gross profit	$ 59,675	$ 47,192	$ 12,483	26%
Product and service gross margin	58 %	57 %		

For the year ended December 31, 2019, cost of product and service revenue increased as compared to the same periods in 2018, due to a higher volume of consumables sold, as well as increased costs associated with the first commercial shipments of GeoMx DSP. Our gross margin on product and service revenue for the year ended December 31, 2019 increased compared to the prior year primarily as a result of higher sales of consumables as a percentage of our sales mix, as well as due to our sales of GeoMx DSP instruments, which generally have a higher gross margin than our nCounter Analysis Systems. In addition, increased revenue from our GeoMx TAP service favorably impacted our overall margins for the year as compared to the prior year. These increases were partially offset by lower average selling prices realized for Prosigna pursuant to our supply agreement with Veracyte, and to a lesser extent, additional investments made in our operations to support the growth of our business.

Research and Development Expense

	Year Ended December 31,		Change	
	2019	2018	Dollars	Percentage
	(Dollars in thousands)			
Research and development expense	$ 68,035	$ 61,599	$ 6,436	10%

The increase in research and development expense for the year ended December 31, 2019 reflects higher stock-based compensation expense, which was driven by increases in our stock price as well as changes in the form of equity compensation granted to our employees and executives beginning in 2019. In addition, we experienced increases to staffing and personnel-related costs to support development activities related to the GeoMx DSP commercial launch, as well as increased facility costs. These increases were partially offset by decreases in professional fees and clinical trial costs, primarily due to fewer diagnostic product related development activities associated with our terminated collaboration agreements as compared to the prior year.

Selling, General and Administrative Expense

	Year Ended December 31,		Change	
	2019	2018	Dollars	Percentage
	(Dollars in thousands)			
Selling, general and administrative expense	$ 96,195	$ 78,195	$ 18,000	23%

The increase in selling, general and administrative expense for the year ended December 31, 2019 is primarily attributable to an increase in staffing and personnel-related costs of $13.4 million to support the GeoMx DSP commercial launch, professional fees associated with the execution of our LAPA and supply agreements with Veracyte, and higher accounting and audit service fees, in particular relating to our compliance with the Sarbanes Oxley Act. Personnel-related costs also reflect higher stock-based compensation expense, which was driven by increases in our stock price as well as changes in the form of equity compensation granted to our employees and executives beginning in 2019.

Other Income (Expense), net

	Year Ended December 31,		Change	
	2019	2018	Dollars	Percentage
	(Dollars in thousands)			
Gain on sale of business, net	$ 48,871	$ —	$ 48,871	N/A
Interest income	2,819	1,331	1,488	112%
Interest expense	(8,487)	(7,431)	(1,056)	14%
Other expense, net	(929)	(1,658)	729	(44)%
Total other income (expense), net	$ 42,274	$ (7,758)	$ 50,032	(645)%

For the year ended December 31, 2019, we have included an aggregate of $48.9 million as a separate line item in our consolidated statement of operations reflecting our gain on sale of business net of transaction costs of $1.1 million related to this transaction. As of December 31, 2019, we have included the shares of Veracyte common stock received in the transaction, at their fair value of $10.5 million, within short-term investments, and the $40.0 million of cash received on the closing date has been included in cash and cash equivalents in the consolidated balance sheets.

Interest expense increased for the year ended December 31, 2019 due primarily to increased borrowings outstanding under our term loan agreement. The average balance of long-term debt outstanding during 2019 was $73.2 million as compared to $52.5 million for 2018. Interest income increased for the year ended December 31, 2019, due to higher interest rates earned on investment holdings as well as an increase in our average investment balance during the year. Other expense, net is comprised primarily of estimated costs for certain state and local taxes and realized and unrealized gains or losses associated with foreign currency transactions primarily denominated in the Euro and British Pounds.

Liquidity and Capital Resources

As of December 31, 2020, we had cash, cash equivalents and short-term investments of $440.7 million, compared to $156.9 million as of December 31, 2019. We believe our existing cash, cash equivalents and short-term investments will be sufficient to meet our working capital and capital expenditure needs for at least the next 12 months.

The COVID-19 pandemic has impacted our ability to solicit and fulfill customer orders and record related product and service revenue at levels comparable to historical periods. To the extent the COVID-19 pandemic continues to have a negative impact on our customers' ability to conduct research or our ability to actively engage with our customers and take or fulfill customer orders, we expect our revenues, and consequently our liquidity and capital resources, in the near term may be negatively impacted. We cannot predict with any certainty if, or how quickly, our customers will return to previous levels of activity or product order levels, or our ability to resume our activities and operations at levels consistent with past performance. Until the effects of the COVID-19 pandemic subside, we expect our near term revenues, as well as our use of our liquidity and capital resources, to be negatively impacted.

Our assessment of the period of time through which our financial resources will be adequate to support our operations is a forward-looking statement and involves risks and uncertainties. Any future funding requirements will depend on many factors, including: the duration of the COVID-19 pandemic and the impact on our customer and operational activity; market acceptance and the level of sales of our existing products and new product candidates; the nature and timing of any additional research, product development or other partnerships or collaborations we may establish; the cost and timing of establishing additional sales, marketing, and distribution capabilities; the cost of our research and development activities; the cost and timing of regulatory clearances or approvals; the effect of competing technological and market developments; and the extent to which we acquire or invest in businesses, products and technologies, although we currently have no commitments or agreements relating to any of these types of transactions. We may require additional funds in the future and we may not be able to obtain such funds on acceptable terms, or at all. If we raise additional funds by issuing equity or equity-linked securities, our stockholders may experience dilution. Debt financing, if available, may involve covenants restricting our operations or our ability to incur additional debt. Any debt or additional equity financing that we raise may contain terms that are not favorable to us or our stockholders. If we raise additional funds through partnership, collaboration or licensing arrangements with third parties, it may be necessary to relinquish some rights to our technologies or our products, or grant licenses on terms that are not favorable to us. If we are unable to raise adequate funds, we may have to liquidate some or all of our assets; delay or reduce the scope of or eliminate some or all of our research and development programs, launch activities, or commercialization of our products; license to third parties the rights to commercialize products or technologies that we would otherwise seek to commercialize; reduce marketing, customer support or other resources devoted to our products; or cease operations.

Sources of Funds

Since inception, we have financed our operations primarily through the sale of equity securities, borrowings under term loan agreements and convertible notes, licensing of intellectual property and, to a lesser extent, sales of certain assets. Our cash used in operations for the year ended December 31, 2020 was $81.7 million.

Equity Financings

In October 2020, we completed an underwritten public offering of 5,750,000 shares of our common stock, including the exercise in full by the underwriters of their option to purchase 750,000 additional shares of common stock. Our total gross proceeds were $230.0 million. After underwriters' commissions and other expenses of the offering, our aggregate net proceeds were approximately $215.8 million.

In March 2019, we completed an underwritten public offering of 3,175,000 shares of our common stock, including the exercise in full by the underwriters of their option to purchase 675,000 additional shares of common stock. An additional 2,000,000 shares were sold by a related party stockholder. Our total gross proceeds were $73.0 million. We did not receive any proceeds from the sale of shares of common stock by the related party stockholder. After underwriter's commissions and other expenses of the offering, and net of proceeds received by the related party stockholder, our aggregate net proceeds were approximately $68.3 million.

In July 2018, we completed an underwritten public offering of 4,600,000 shares of common stock, including the exercise in full by the underwriters of their option to purchase 600,000 additional shares of common stock in August 2018, for total gross proceeds of $57.5 million. After underwriter's commissions and other expenses of the offering, our aggregate net proceeds were approximately $53.8 million.

In January 2018, we entered into a sales agreement with a sales agent to sell shares of our common stock through an "at the market" equity offering program for up to $40.0 million in gross cash proceeds. In March 2019, subsequent to our most recent underwritten public offering, we terminated this agreement. No shares of our common stock were sold under this agreement.

Debt Instruments

2.625% Convertible Senior Notes due 2025

In March 2020, we issued $230.0 million in aggregate principal amount of 2.625% Convertible Senior Notes due 2025, or the Convertible Notes, in a private offering. The Convertible Notes are governed by an indenture dated March 9, 2020 between us and U.S. Bank, National Association, as trustee.

We received net proceeds from the offering of $222.6 million. We used $88.6 million to repay in full all outstanding amounts borrowed, accrued interest and fees owed in connection with the termination of the amended and restated term loan agreement, or the 2018 Term Loan, with Capital Royalty Group, and the fees owed in connection with the termination of our revolving credit facility with Silicon Valley Bank. We intend to use the remainder of the net proceeds for general corporate purposes, including the continued development and commercialization of GeoMx DSP, the continued commercialization of our portfolio of nCounter based products, and for working capital needs.

The Convertible Notes bear interest at a rate of 2.625% per year, payable semi-annually in arrears on March 1 and September 1, beginning on September 1, 2020. The Convertible Notes may bear additional interest under specified circumstances relating to our failure to comply with our reporting obligations under, or if the Convertible Notes are not freely tradeable as required by, the indenture governing the Convertible Notes. Upon conversion, the Convertible Notes will be convertible into cash, shares of common stock, or a combination of cash and shares of common stock, at our election.

The Convertible Notes are general unsecured senior obligations and will mature on March 1, 2025, unless earlier repurchased, redeemed, or converted, subject to satisfaction of certain conditions and during the periods described below. The initial conversion rate for the Convertible Notes is 20.9161 shares of common stock, par value $0.0001 per share, per $1,000 principal amount of Convertible Notes (which is equivalent to an initial conversion price of approximately $47.81 per share). The conversion rate will be subject to adjustment in some events but will not be adjusted for any accrued and unpaid interest. In addition, following certain corporate events that may occur prior to the maturity date or if we issue a notice of redemption, we will increase the conversion rate for a holder who elects to convert our Convertible Notes in connection with such corporate event or in connection with such redemption, as the case may be, in certain circumstances.

Prior to the close of business on the business day immediately preceding December 1, 2024, the Convertible Notes will be convertible only under the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on June 30, 2020 (and only during such calendar quarter), if the last reported sale price of the common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each

applicable trading day; (2) during the five business-day period after any five consecutive trading-day period in which the trading price per $1,000 principal amount of Convertible Notes for each trading day of such period was less than 98% of the product of the last reported sale price of the common stock and the conversion rate on each such trading day; (3) if we call any or all of the Convertible Notes for redemption, the Convertible Notes called for redemption (or, in the case of a partial redemption, if we make an election to redeem all Convertible Notes, irrespective of whether they are called for redemption, to be convertible, all Convertible Notes) may be submitted for conversion at any time prior to the close of business on the scheduled trading day immediately preceding the redemption date as set forth in the related redemption notice; or (4) upon the occurrence of specified corporate events. On or after December 1, 2024, until the close of business on the business day immediately preceding the maturity date, holders of the Convertible Notes may convert all or any portion of their Convertible Notes at any time, regardless of the foregoing circumstances.

We may not redeem the Convertible Notes prior to March 5, 2023, and no sinking fund is provided for the Convertible Notes. On or after March 5, 2023, we may redeem for cash all or any portion of the Convertible Notes, at our option, if the last reported sale price of the common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading-day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which we provide a notice of redemption at a redemption price equal to 100% of the principal amount of the Convertible Notes to be redeemed, plus any accrued and unpaid interest to, but excluding, the redemption date.

Upon the occurrence of a fundamental change (as defined in the indenture governing the Convertible Notes) prior to the maturity date, subject to certain conditions, holders may require us to repurchase all or a portion of the Convertible Notes in increments of $1,000 for cash at a price equal to 100% of the principal amount of the Convertible Notes to be repurchased, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The Convertible Notes do not contain any financial or operating covenants or any restrictions on the issuance of other indebtedness or the issuance or repurchase of securities by us. The Convertible Notes indenture contains customary events of default, including that upon certain events of default, 100% of the principal and accrued and unpaid interest on the Convertible Notes will automatically become due and payable.

Term Loan Agreement

In October 2018, we entered into an amended and restated term loan agreement, or the 2018 Term Loan, with Capital Royalty Group under which we could borrow up to $100.0 million, which was due and payable in September 2024.

In March 2020, we terminated the 2018 Term Loan agreement. We used $88.6 million of the proceeds from the Convertible Notes to repay in full all outstanding principle, interest and fees owed associated with termination of the loan.

2018 Revolving Loan Facility

In January 2018, we entered into a $15.0 million secured revolving loan facility, with availability subject to a borrowing base consisting of eligible accounts receivable. In November 2018, we entered into an amended and restated loan and security agreement to increase the borrowing capacity under the facility to $20.0 million, amend the borrowing base to include finished goods inventory, and extend the final maturity under the facility to November 2021.

In March 2020, we terminated the revolving loan facility and paid termination fees of $0.5 million. There were no amounts outstanding under the revolving loan facility at the time of termination.

2019 Sale of Business

In December 2019, we entered into a License and Asset Purchase Agreement, or LAPA, and service and supply agreements, or SSAs, with Veracyte, Inc, or Veracyte. Pursuant to the LAPA, we completed a license of intellectual property and a sale of certain assets to Veracyte relating to our nCounter FLEX system for use in clinical diagnostic applications. Veracyte also acquired certain intellectual property rights and worldwide distribution rights relating to our Prosigna Breast Cancer Assay and our LymphMark assay and certain clinical diagnostic assay software modules that operate with the nCounter FLEX system.

Pursuant to the terms of the LAPA, Veracyte paid us total consideration of $50.0 million, consisting of $40.0 million in cash, paid in connection with the entry into the LAPA, and 376,732 shares of Veracyte common stock valued at $10.0 million, which shares were issued in connection with the entry into the LAPA. Additionally, we may receive future potential milestone payments of up to $10.0 million in the aggregate, to be paid upon the launch of additional clinical diagnostic tests by Veracyte for our nCounter FLEX platform.

Use of Funds

Our principal uses of cash are funding our operations, capital expenditures, working capital requirements and satisfaction of any outstanding obligations under our debt agreements, respectively. Over the past several years, our product and service revenue has increased significantly from year to year and, as a result, our cash flows from customer collections have increased. Our operating expenses have also increased as we have invested in our sales and marketing activities and in research and development of new product platforms and technologies that we believe have the potential to drive the long-term growth of our business.

Our operating cash requirements may increase in the future as we invest in research and development related to existing or new product platforms, as well as in sales and marketing and administrative activities. We cannot be certain our revenue will grow sufficiently to offset our operating expense increases. As a result, we may need to raise additional funds to support our operations, and such funding may not be available to us on acceptable terms, or at all. If we are unable to raise additional funds when needed, our operations and ability to execute our business strategy could be adversely affected.

Historical Cash Flow Trends

The following table shows a summary of our cash flows for the periods indicated:

	Year Ended December 31,		
	2020	2019	2018
	(In thousands)		
Cash used in operating activities	$ (81,662)	$ (89,421)	$ (54,065)
Cash provided by (used in) investing activities	91,241	(15,159)	(22,925)
Cash provided by financing activities	373,048	109,266	75,081

Operating Cash Flows

We derive operating cash flows from cash collected from the sale of our products and services and, historically, from collaborations. These cash flows received are offset by our use of cash for operating expenses to support the growth of our business. We have historically experienced negative cash flows from operating activities, with such negative cash flows likely to continue for the foreseeable future.

Net cash used in operating activities in 2020 consisted of our net loss of $110.1 million and net increases in our operating assets and liabilities of $14.5 million. Included in our 2020 net loss were $43.0 million of net non-cash expense items such as the loss on extinguishment of debt, payment of accrued interest on the 2018 Term Loan, stock-based compensation, depreciation and amortization, amortization of our right-of-use assets, deferred interest costs; and provisions for inventory obsolescence and bad debt.

Net cash used in operating activities for 2019 consisted of our net loss of $40.7 million, and net increases in our operating assets and liabilities of $28.2 million, coupled with $20.5 million of net non-cash income and expense items, such as the gain on sale of business to Veracyte, stock-based compensation, depreciation and amortization, amortization of our right-of-use assets, deferred interest converted to principal pursuant to our term loan agreement and provisions for inventory obsolescence.

Net cash used in operating activities for 2018 consisted of our net loss of $77.4 million, partially offset by $8.9 million of changes in our operating assets and liabilities and $14.4 million of net non-cash expense items, such as stock-based compensation, depreciation and amortization, deferred interest converted to principal pursuant to our term loan agreement and provisions for bad debt and inventory obsolescence.

Investing Cash Flows

Our most significant investing activities for 2020, 2019 and 2018, were related to the purchase, maturity and sale of short-term investments. Additionally, for 2019 we had significant investing activity related to the proceeds received pursuant to the sale of business to Veracyte. Because we manage our cash usage with respect to our total cash, cash equivalents and short-term investments, we do not consider cash flows related to management of our short-term investments to be important to an understanding of our liquidity and capital resources.

In the years ended December 31, 2020, 2019 and 2018, we purchased property and equipment totaling $7.5 million, $7.9 million and $4.5 million respectively, which we believe will be required to support the growth and expansion of our operations.

Financing Cash Flows

Historically, we have funded our operations through the issuance of equity securities and various forms of debt borrowings.

Net cash provided by financing activities in 2020 consisted primarily of net proceeds of $222.6 million from the issuance of 2.625% Convertible Senior Notes, net proceeds of $215.8 million from an underwritten public offering of our common stock, and $18.9 million of net proceeds from the vesting and exercise of employee stock awards and from proceeds associated with our Employee Stock Purchase Plan. These cash inflows were partially offset by payments related to the termination of our term loan agreement and revolving loan facility of $84.8 million.

Net cash provided by financing activities for 2019 consisted primarily of net proceeds of $68.3 million from an underwritten public offering of our common stock, borrowings of $20.0 million under our term loan agreement and $18.9 million of net proceeds from the vesting and exercise of employee stock awards and from proceeds associated with our Employee Stock Purchase Plan.

Net cash provided by financing activities for 2018 consisted of net proceeds of $53.8 million from an underwritten public offering, $13.5 million of net proceeds from our 2018 Term Loan, $4.8 million of proceeds from the vesting and exercise of employee stock awards and from proceeds associated with our Employee Stock Purchase Plan.

Contractual Obligations and Commitments

The following table reflects a summary of our contractual obligations as of December 31, 2020.

	Payments due by period				
Contractual Obligations[1]	**Total**	**Less than 1 Year**	**1-3 Years**	**3-5 Years**	**More than 5 Years**
			(In thousands)		
Convertible notes[2]	$ 230,000	$ —	$ —	$ 230,000	$ —
Lease obligations[3]	37,251	6,462	13,096	13,586	4,107
Purchase obligations[4]	21,355	21,355	—	—	—
Total	$ 288,606	$ 27,817	$ 13,096	$ 243,586	$ 4,107

[1] Excludes royalty obligations based on net sales of products as any such amounts are not currently determinable.

[2] Includes principal on our convertible notes.

[3] Lease costs are primarily for office, laboratory and manufacturing space.

[4] Purchase obligations consist of contractual and legally binding commitments under outstanding purchase orders to purchase long lead time inventory and other research and development items.

Critical Accounting Policies and Significant Estimates

Our discussion and analysis of our financial condition and results of operations are based upon our financial statements which have been prepared in accordance with U.S. generally accepted accounting principles, or GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets and liabilities and related disclosure of contingent assets and liabilities, revenue and expenses at the date of the financial statements. Generally, we base our estimates on historical experience and on various other assumptions in accordance with GAAP that we believe to be reasonable under the circumstances. Actual results may differ from these estimates.

Critical accounting policies and estimates are those that we consider the most important to the portrayal of our financial condition and results of operations because they require our most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. Our critical accounting policies and estimates include those related to:

- revenue recognition;
- stock-based compensation;
- inventory valuation;
- fair value measurements; and
- income taxes.

Revenue Recognition

We generate the majority of our revenue from sales of products and services. Our products consist of our nCounter Analysis System and GeoMx DSP system, and related consumables. Services consist of instrument service contracts and service fees for assay processing.

Revenue is recognized when control of the promised goods or services is transferred to our customers, in an amount that reflects the consideration expected to be received in exchange for those products and services. This process involves identifying the contract with a customer, determining the performance obligations in the contract, determining the contract price, allocating the contract price to the distinct performance obligations in the contract, and recognizing revenue when the performance obligations have been satisfied. A performance obligation is considered distinct from other obligations in a contract when it provides a benefit to the customer either on its own or together with other resources that are readily available to the customer and is separately identified in the contract. Performance obligations are considered satisfied once control of a product or service has transferred to the customer, meaning the customer has the ability to use and obtain the benefit of the product or service. Revenue is recognized for satisfied performance obligations only when there are no uncertainties regarding payment terms or transfer of control.

Revenue from instruments and consumables, including *in vitro* diagnostic kits, is recognized generally upon shipment to the end customer, which is when control of the product has been transferred to the customer. Performance obligations related to instrument sales are reviewed on a contract-by-contract basis, as individual contract terms may vary, and may include installation and calibration services. Performance obligations for consumable products are generally completed upon shipment to the customer. Instrument revenue related to installation and calibration services is recognized when the customer has possession of the instrument and the services have been performed. Such services can also be provided by our distribution partners and other third parties.

Instrument service contracts are sold with contract terms ranging from 12-36 months and cover periods after the end of the initial 12-month warranty. These contracts include services to maintain performance within our designed specifications and a minimum of one preventative maintenance service procedure during the contract term. Revenue from services to maintain designed specifications is considered a stand-ready obligation and recognized evenly over the contract term and service revenue related to preventative maintenance of instruments is recognized when the procedure is completed. Revenue from service fees for assay processing is recognized upon the rendering of the related performance obligation.

For arrangements with multiple performance obligations, we allocate the contract price in proportion to its stand-alone selling price. We use our best estimate of stand-alone selling price for our products and services based on historical sales and adjusted for similar products, geographies, and differences in customers and review our stand-alone prices annually.

Product and service revenues from sales to customers through distributors are recognized consistent with the policies and practices for direct sales to customers, as described above.

We have historically entered into collaboration agreements that may generate upfront fees, and may enter into such agreements in the future, and in some cases subsequent milestone payments that may be earned upon completion of certain product development milestones or other designated activities. We are able to estimate the total expected cost of product development and other services under these arrangements and recognize collaboration revenue using a contingency-adjusted proportional performance model. Costs incurred to date compared to total expected costs are used to determine proportional performance, as this is considered to be representative of the delivery of outputs under the arrangements. Revenue recognized at any point in time is limited to cash received, amounts contractually due, or the amounts of any product development or other contractual milestone payments when achievement of a milestone is deemed to be probable. Changes in estimates of total expected collaboration product development or other costs are accounted for prospectively as a change in estimate. From period to period, collaboration revenue can fluctuate substantially based on the achievement or probable achievement of product development or other milestones, or as estimates of total expected collaboration product development or other costs are changed or updated. We may recognize revenue from collaboration agreements that do not include upfront or milestone-based payments. Amounts due to collaboration partners are recognized when the related activities have occurred and are classified in the statement of operations, generally as research and development expense, based on the nature of the related activities.

Stock-based Compensation

We account for stock-based compensation at fair value. Stock-based compensation costs for restricted stock units, or RSUs, are recognized based on their grant date fair value estimated using the intrinsic method. Stock-based compensation costs for stock option awards are recognized based on their grant date fair value estimated using the Black-Scholes option pricing model. Stock-based compensation expense recognized in the consolidated statements of operations is based on awards ultimately expected to vest using actual forfeitures when incurred. We use the straight-line method of allocating compensation cost over the requisite service period of the related award, for awards with only service-based vesting requirements. For awards

with service and performance-based vesting requirements, we use an accelerated method of allocating compensation cost, over the vesting period.

Determining the fair value of stock-based awards at the grant date under the Black-Scholes option pricing model requires judgment, including estimating the value per share of our common stock, risk-free interest rate, expected term and dividend yield and volatility. The assumptions used in calculating the fair value of stock-based awards represent our best estimates based on management judgment and subjective future expectations. These estimates involve inherent uncertainties. If any of the assumptions used in the Black-Scholes option pricing model significantly change, stock-based compensation for future awards may differ materially from the awards granted previously.

The expected term of options granted is based on historical experience of similar awards and expectations of future employee behavior. The risk-free interest rate for the expected term of the option is based on the U.S. Treasury yield curve in effect at the time of grant. We have not paid and do not anticipate paying cash dividends on our common stock; therefore, the expected dividend yield is assumed to be zero. We calculated volatility based on our share price activity throughout the year.

Inventory Valuation

Inventory consists of raw materials, certain component parts to be used in manufacturing our products and finished goods. Inventory is stated at the lower of cost or market. Cost is determined using a standard cost system, whereby the standard costs are updated periodically to reflect current costs and market represents the lower of replacement cost or estimated net realizable value. We record adjustments to inventory for potentially excess, obsolete, slow-moving or impaired items. The business environment in which we operate is subject to rapid changes in technology and customer demand. We regularly review inventory for excess and obsolete products and components, taking into account product life cycle and development plans, product expiration and quality issues, historical experience and our current inventory levels. If actual market conditions are less favorable than anticipated, additional inventory adjustments could be required.

Fair value of financial instruments

The recorded amounts of certain financial instruments, including cash and cash equivalents, accounts receivable, prepaid expenses and other assets, accounts payable and accrued liabilities approximate fair value due to their relatively short maturities. Investments that are classified as available-for-sale are recorded at fair value. The fair value for debt securities held is determined using quoted market prices, broker or dealer quotations, or alternative pricing sources with reasonable levels of price transparency. The recorded amount of our long-term debt approximates fair value because the related interest rates approximate rates currently available to us.

Income Taxes

We account for income taxes under the liability method. Under the liability method, deferred tax assets and liabilities are determined based on the differences between the financial reporting and income tax bases of assets and liabilities and are measured using the tax rates that will be in effect when the differences are expected to reverse. A valuation allowance is recorded when it is more likely than not that some of the deferred tax assets will not be realized.

We determine whether a tax position is more likely than not to be sustained upon examination based on the technical merits of the position. For tax positions meeting the more-likely-than-not threshold, the tax amount recognized in the financial statements is reduced by the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement with the relevant tax authority.

Recent Accounting Pronouncements

For information regarding recent accounting pronouncements, see Note 2 of the Notes to the Consolidated Financial Statements of this report.

Off-Balance Sheet Arrangements

We do not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or for any other contractually narrow or limited purpose.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to various market risks, including changes in commodity prices and interest rates. Market risk is the potential loss arising from adverse changes in market rates and prices. Prices for our products are largely denominated in U.S. dollars and, as a result, we do not face significant risk with respect to foreign currency exchange rates.

Interest Rate Risk

Generally, our exposure to market risk has been primarily limited to interest income sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because the majority of our investments are in short-term debt securities. The primary objective of our investment activities is to preserve principal while at the same time maximizing the income we receive without significantly increasing risk. To minimize risk, we maintain our portfolio of cash, cash equivalents and short-term investments in a variety of interest-bearing instruments, which have included U.S. government and agency securities, high-grade U.S. corporate bonds, asset-backed securities and money market funds. Declines in interest rates, however, would reduce future investment income. A 10% decline in interest rates, occurring on January 1, 2021 and sustained throughout the period ending December 31, 2021, would not be material.

Our Convertible Notes are based on a fixed rate; accordingly, we do not have economic interest rate exposure on the Convertible Notes. However, changes in interest rates could impact the fair market value of the Convertible Notes. Generally, the fair market value of the fixed interest rate of the Convertible Notes will increase as interest rates fall and decrease as interest rates rise. In addition, the fair market value of the Convertible Notes fluctuates when the market price of our common stock fluctuates. As of December 31, 2020, the fair market value of the Convertible Notes was $355.4 million and was determined based on the estimated or actual bid prices of the Convertible Notes in an over-the-counter market.

Foreign Currency Exchange Risk

As we continue to expand internationally our results of operations and cash flows will become increasingly subject to fluctuations due to changes in foreign currency exchange rates. Historically, a majority of our revenue has been denominated in U.S. dollars, although we sell our products and services directly in certain markets outside of the United States denominated in local currency, principally the Euro. Our expenses are generally denominated in the currencies in which our operations are located, which is primarily in the United States. The effect of a 10% adverse change in exchange rates on foreign denominated cash, receivables and payables would not have been material for any of the periods presented. As our operations in countries outside of the United States grow, our results of operations and cash flows will be subject to potentially greater fluctuations due to changes in foreign currency exchange rate fluctuations, including as a result of the COVID-19 pandemic. To date, we have not entered into any foreign currency hedging contracts although we may do so in the future.

Inflation Risk

We do not believe that inflation has had a material effect on our business, financial condition or results of operations. If our costs were to become subject to significant inflationary pressures, we may not be able to fully offset such higher costs through price increases. Our inability or failure to do so could adversely affect our business, financial condition and results of operations.

Item 8. Financial Statements and Supplementary Data

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS
NANOSTRING TECHNOLOGIES, INC.

Report of Ernst & Young LLP, Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of NanoString Technologies, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of NanoString Technologies, Inc. (the Company) as of December 31, 2020, the related consolidated statements of operations, comprehensive loss, changes in stockholders' equity and cash flows for the year ended December 31, 2020, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2020, and the results of its operations and its cash flows for the year then ended, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated March 1, 2021 expressed an unqualified opinion thereon.

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 audit. We are a public accounting firm registered with the 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 audit 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. Our audit 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 audit 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 audit provides 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 consolidated 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.

Revenue Recognition – Allocation of Transaction Price to Performance Obligations

Description of the Matter

As described in Note 2 to the consolidated financial statements, the Company's contracts for instrument sales commonly include a combination of the instrument, consumables and services. For those arrangements with multiple distinct performance obligations, the Company allocates the total contract price to each distinct performance obligation based on relative stand-alone selling price. The Company uses its best estimate of relative stand-alone selling price for its products and services based on historical sales data.

Auditing the Company's revenue recognition was complex, specifically related to the effort required to test the accounting for contracts with multiple performance obligations. This included the identification of the distinct performance obligations, determination of the stand-alone selling price and allocation of the transaction price to the distinct performance obligations based on the Company's best estimate of the stand-alone selling price.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of the Company's controls to determine the distinct performance obligations, stand-alone selling price of each distinct performance obligation and the allocation of the transaction price to the distinct performance obligations.

To test the revenues recognized for contracts with multiple performance obligations, our audit procedures included, among others, reading a sample of executed contracts to understand the terms and conditions, evaluating the Company's identification of the distinct performance obligations, and testing the Company's allocation to the distinct performance obligations based on relative stand-alone selling price. To test management's determination of relative stand-alone selling price for each distinct performance obligation, our audit procedures included, among others, assessing the appropriateness of the methodology applied and testing the reliability and mathematical accuracy of the underlying data and calculations and performing a sensitivity analysis of the impact to recorded revenues for varying stand-alone selling prices.

Issuance of Convertible Debt

Description of the Matter

In March 2020, the Company issued $230 million of 2.625% Convertible Senior Notes due 2025 (the "Convertible Notes"). As discussed in Note 10 of the consolidated financial statements, the Convertible Notes include conversion terms that require the Company to account for the debt and equity components of the Convertible Notes separately. This required allocating value to the debt component based on the effective yield that the Company would have received on the debt issuance had it not included the conversion feature, with the residual value ascribed to the equity component and reflected as a debt discount to be amortized to interest expense over the terms of the notes.

Auditing management's evaluation of the Convertible Notes was especially challenging due to the complexity in assessing the components of the convertible notes for separability and assessing the valuation of the debt instrument absent any conversion feature. The valuation of the debt instrument absent any conversion feature is used to record the debt component on the Company's balance sheet and required the use of a valuation methodology and certain key assumptions. While the Company used available data from which to derive key assumptions to the fair value of stand-alone debt, such as expected volatility, synthetic credit rating, and effective yield, the fair value is sensitive to changes in the key assumptions and therefore required judgement in evaluating their reasonableness.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's initial Convertible Notes accounting process and the Company's procedures evaluate the applicable accounting guidance and components of the convertible notes for separability, to review the valuation methodology and the key assumptions used to determine the fair value of the debt component.

To test the initial accounting for the Convertible Notes, our audit procedures included, among others, inspection of the debt agreement and testing management's application of the relevant accounting guidance. To test the value assigned to the debt and equity components, we performed audit procedures involving our valuation specialists to evaluate the Company's determination of the fair value of the debt absent of any conversion feature. This included testing the appropriateness of the methodology and underlying assumptions used, performing an independent credit analysis including comparison to market rates for similarly rated instruments, and evaluating the sensitivity of management's key assumptions.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2020.

Seattle, Washington
March 1, 2021

Report of Ernst & Young LLP, Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of NanoString Technologies, Inc.

Opinion on Internal Control Over Financial Reporting

We have audited NanoString Technologies, Inc.'s internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), (the COSO criteria). In our opinion, NanoString Technologies, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the 2020 consolidated financial statements of the Company and our report dated March 1, 2021 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's 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 generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Seattle, Washington
March 1, 2021

Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of NanoString Technologies, Inc.

Opinions on the Financial Statement

We have audited the consolidated balance sheet of NanoString Technologies, Inc. and its subsidiaries (the "Company") as of December 31, 2019, and the related consolidated statements of operations, comprehensive loss, changes in stockholders' equity and cash flows for each of the two years in the period ended December 31, 2019, including the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2019.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated 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 of these consolidated financial statements 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 consolidated financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

Seattle, Washington
March 1, 2021

We served as the Company's auditor from 2008 to 2020.

NanoString Technologies, Inc.
Consolidated Balance Sheets

	December 31,	
	2020	2019
	(In thousands, except par value amounts)	
Assets		
Current assets:		
Cash and cash equivalents	$ 411,848	$ 29,033
Short-term investments	28,883	127,822
Accounts receivable, net	31,100	27,153
Inventory, net	22,959	19,781
Prepaid expenses and other	4,190	8,818
Total current assets	498,980	212,607
Property and equipment, net	20,828	20,184
Operating lease right-of-use assets	21,492	24,648
Other assets	2,895	2,315
Total assets	$ 544,195	$ 259,754
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 5,313	$ 10,282
Accrued liabilities	4,970	4,973
Accrued compensation and other employee benefits	15,262	15,579
Customer deposits	1,631	6,389
Deferred revenue and other liabilities, current portion	5,610	3,997
Operating lease liabilities, current portion	4,313	3,766
Total current liabilities	37,099	44,986
Deferred revenue and other liabilities, net of current portion	1,843	1,298
Long-term debt, net	172,703	79,951
Operating lease liabilities, net of current portion	25,602	29,368
Total liabilities	237,247	155,603
Commitments and contingencies (Note 16)		
Stockholders' equity		
Preferred stock, $0.0001 par value, 15,000 shares authorized; none issued	—	—
Common stock, $0.0001 par value, 150,000 shares authorized; 44,441 and 36,298 shares issued and outstanding at December 31, 2020 and 2019, respectively	4	4
Additional paid-in-capital	848,891	535,954
Accumulated other comprehensive income	83	145
Accumulated deficit	(542,030)	(431,952)
Total stockholders' equity	306,948	104,151
Total liabilities and stockholders' equity	$ 544,195	$ 259,754

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

NanoString Technologies, Inc.
Consolidated Statements of Operations

	Years Ended December 31,		
	2020	2019	2018
	(In thousands, except per share amounts)		
Revenue:			
Product and service	$ 111,444	$ 103,714	$ 83,523
Collaboration	5,872	21,854	23,209
Total revenue	117,316	125,568	106,732
Costs and expenses:			
Cost of product and service revenue	52,409	44,039	36,331
Research and development	62,857	68,035	61,599
Selling, general and administrative	90,097	96,195	78,195
Total costs and expenses	205,363	208,269	176,125
Loss from operations	(88,047)	(82,701)	(69,393)
Other income (expense):			
Gain on sale of business, net	—	48,871	—
Loss on extinguishment of debt and termination of revolving loan facility	(7,143)	—	—
Interest income	1,744	2,819	1,331
Interest expense	(15,408)	(8,487)	(7,431)
Other expense, net	(971)	(929)	(1,658)
Total other income (expense), net	(21,778)	42,274	(7,758)
Net loss before provision for income taxes	(109,825)	(40,427)	(77,151)
Provision for income taxes	(253)	(269)	(249)
Net loss	$ (110,078)	$ (40,696)	$ (77,400)
Net loss per share—basic and diluted	$ (2.82)	$ (1.18)	$ (2.78)
Weighted average shares used in computing basic and diluted net loss per share	39,083	34,588	27,883

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

NanoString Technologies, Inc.
Consolidated Statements of Comprehensive Loss

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Net loss	$ (110,078)	$ (40,696)	$ (77,400)
Other comprehensive income (loss):			
Change in unrealized (loss) gain on available-for-sale debt securities	(62)	185	59
Comprehensive loss	$ (110,140)	$ (40,511)	$ (77,341)

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

NanoString Technologies, Inc.
Consolidated Statements of Changes in Stockholders' Equity

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
				(In thousands)		
Balances at January 1, 2018	25,421	$ 2	$ 353,308	$ (99)	(313,102)	$ 40,109
Cumulative effect of a change in accounting policy[1]	—	—	—	—	(754)	(754)
Issuance of common stock net of issuance costs of $3.7 million	4,600	1	53,828	—	—	53,829
Issuance of common stock warrants	—	—	4,593	—	—	4,593
Common stock issued for stock options and restricted stock units	517	—	3,507	—	—	3,507
Issuance of common stock for employee stock purchase plan	257	—	1,451	—	—	1,451
Exercise of common stock warrants	118	—	—	—	—	—
Stock-based compensation	—	—	11,475	—	—	11,475
Net loss	—	—	—	—	(77,400)	(77,400)
Other comprehensive income	—	—	—	59	—	59
Balances at December 31, 2018	30,913	3	428,162	(40)	(391,256)	36,869
Issuance of common stock net of issuance costs of $4.7 million	3,175	—	68,273	—	—	68,273
Issuance of common stock warrants	—	1	3,196	—	—	3,197
Common stock issued for stock options and restricted stock units	2,007	—	18,387	—	—	18,387
Issuance of common stock for employee stock purchase plan	203	—	1,952	—	—	1,952
Tax withholdings related to net share settlements of restricted stock units	—	—	(1,474)	—	—	(1,474)
Stock-based compensation	—	—	17,458	—	—	17,458
Net loss	—	—	—	—	(40,696)	(40,696)
Other comprehensive income	—	—	—	185	—	185
Balances at December 31, 2019	36,298	4	535,954	145	(431,952)	104,151
Issuance of common stock net of issuance costs of $14.2 million	5,750	—	215,765	—	—	215,765
Equity component of convertible notes, net	—	—	58,543	—	—	58,543
Common stock issued for stock options and restricted stock units	1,890	—	18,751	—	—	18,751
Issuance of common stock for employee stock purchase plan	89	—	2,190	—	—	2,190
Issuance of common stock warrants	—	—	737	—	—	737
Net exercise of common stock warrants	414	—	—	—	—	—
Tax withholdings related to net share settlements of restricted stock units	—	—	(2,012)	—	—	(2,012)
Stock-based compensation	—	—	18,963	—	—	18,963
Net loss	—	—	—	—	(110,078)	(110,078)
Other comprehensive loss	—	—	—	(62)	—	(62)
Balances at December 31, 2020	44,441	$ 4	$ 848,891	$ 83	$ (542,030)	$ 306,948

[1] Effective January 1, 2018, we adopted Accounting Standard Update No. 2014-09, Revenue from Contracts with Customers. See Note 2. Significant Accounting Policies and Note 3. Revenue from Contracts with Customers for more information.

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

NanoString Technologies, Inc.
Consolidated Statements of Cash Flows

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Operating activities			
Net loss	$ (110,078)	$ (40,696)	$ (77,400)
Adjustments to reconcile net loss to net cash used in operating activities			
Depreciation and amortization	5,738	4,919	4,070
Stock-based compensation expense	19,374	17,458	11,475
Non-cash operating lease cost	3,238	2,831	—
Payment of accrued interest on long-term debt	(2,593)	—	(5,446)
Gain on sale of business	—	(49,922)	—
Loss (gain) on equity securities	300	(625)	—
Loss on extinguishment of long-term debt	7,143	—	842
Amortization (accretion) of discount or premium on short-term investments	(121)	(204)	278
Amortization of deferred financing costs	8,881	810	438
Conversion of accrued interest to long-term debt	—	2,193	1,530
Loss on disposal of property and equipment	119	1,152	97
Provision for inventory obsolescence and bad debt	886	869	1,158
Changes in operating assets and liabilities			
Accounts receivable	(3,949)	(9,805)	1,807
Inventory	(4,909)	(8,475)	5,251
Prepaid expenses and other assets	4,321	(3,350)	(2,714)
Accounts payable	(3,170)	(599)	4,640
Accrued liabilities	(21)	1,276	(494)
Accrued compensation and other employee benefits	(936)	3,567	3,463
Customer deposits	(4,758)	(1,778)	(778)
Deferred revenue and other liabilities	2,033	(6,536)	(2,282)
Operating lease liabilities	(3,160)	(2,506)	—
Net cash used in operating activities	(81,662)	(89,421)	(54,065)
Investing activities			
Purchases of property and equipment	(7,457)	(7,885)	(4,485)
Proceeds from sale of business	—	40,000	—
Proceeds from sale of short-term investments	21,218	2,500	7,910
Proceeds from maturity of short-term investments	116,284	97,970	51,300
Purchases of short-term investments	(38,804)	(147,744)	(77,650)
Net cash provided by (used in) investing activities	91,241	(15,159)	(22,925)
Financing activities			
Proceeds from long-term debt	230,000	20,000	60,000
Deferred costs related to long-term debt	(7,403)	(100)	(500)
Repayment of long-term debt and lease financing obligations	(80,000)	—	(45,000)
Fees paid upon extinguishment of debt	(4,845)	—	(1,009)
Proceeds from sale of common stock, net	215,765	68,273	53,829
Proceeds from issuance of common stock warrants	737	2,228	3,010
Proceeds from issuance of common stock for employee stock purchase plan	2,190	1,952	1,451
Tax withholdings related to net share settlements of restricted stock units	(2,012)	(1,474)	(207)
Proceeds from exercise of stock options	18,751	18,387	3,507
Repayment of finance lease obligations	(135)	—	—
Net cash provided by financing activities	373,048	109,266	75,081
Net increase (decrease) in cash and cash equivalents	382,627	4,686	(1,909)
Effect of exchange rate changes on cash and cash equivalents	188	(9)	(14)
Cash and cash equivalents			
Beginning of year	29,033	24,356	26,279
End of year	$ 411,848	$ 29,033	$ 24,356

NanoString Technologies, Inc.
Consolidated Statements of Cash Flows (*continued*)

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Supplemental disclosures			
Cash paid for interest	$ 4,571	$ 5,683	$ 6,213
Fair value of warrants issued with long-term debt	—	968	1,583
Cash paid for taxes	357	265	231
Instruments reclassified from inventory to property and equipment	854	605	585
Finance lease right-of-use assets obtained in exchange for lease obligations	524	0	—
Operating lease right-of-use assets obtained in exchange for lease obligations	—	28,060	—
Common stock received for sale of a business	—	9,893	—
Non-cash inventory exchanged for services	—	—	106

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

NanoString Technologies, Inc.
Notes to Consolidated Financial Statements

1. Description of the Business

NanoString Technologies, Inc. (the "Company") was incorporated in the state of Delaware on June 20, 2003. The Company's headquarters is located in Seattle, Washington. The Company's proprietary optical barcoding chemistry enables direct detection, identification and quantification of individual target molecules in a biological sample by attaching a unique color coded fluorescent reporter to each target molecule of interest. The Company currently markets and sells two platforms based on its proprietary technology, its nCounter Analysis System and its GeoMx Digital Spatial Profiler, or GeoMx DSP system, both consisting of instruments and consumables, to academic, government, biopharmaceutical and clinical laboratory customers.

The Company has incurred losses to date and expects to incur additional losses for the foreseeable future. The Company continues to invest the majority of its resources in the development and growth of its business, including significant investments in new product development and sales and marketing efforts. The Company's activities have been financed to date primarily through the sale of equity securities and incurrence of indebtedness and cash received by the Company pursuant to certain product development collaborations.

2. Significant Accounting Policies

Accounting Principles and Principles of Consolidation

The consolidated financial statements and accompanying notes were prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP"). The accompanying consolidated financial statements reflect the accounts of the Company and its wholly-owned subsidiaries. Each of the subsidiaries operates as a sales and support office. The functional currency of each subsidiary is the U.S. dollar. All significant intercompany balances and transactions have been eliminated.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and that affect the reported amounts of revenue and expenditures during the reporting period. Actual results could differ from those estimates. Significant estimates inherent in the preparation of the accompanying consolidated financial statements include the estimation of stand-alone selling prices for its products and services, the estimation of the valuation of inventory, the estimates used in the valuation allowance for deferred tax assets and uncertain tax positions, and estimates used in certain of the inputs and calculations associated with stock-based compensation.

Cash and Cash Equivalents

The Company considers all highly-liquid investments with purchased maturities of three months or less to be cash equivalents. The Company's cash equivalents consist principally of funds maintained in depository accounts. The Company invests its cash and cash equivalents with major financial institutions; at times these investments exceed federally insured limits.

Investments

At the end of 2019, the Company held certain equity securities, which are reported at fair value. Changes in the fair value of equity securities have been recorded in other income (loss) in the consolidated statements of operations for the period ended December 31, 2020. The cost of equity securities for purposes of computing gains and losses is based on the specific identification method. As of December 31, 2020, all equity securities previously held by the Company had been sold.

The Company classifies its debt securities as available-for-sale, which are reported at estimated fair value with unrealized gains and losses included in accumulated other comprehensive loss in stockholders' equity. Realized gains, realized losses and allowance for estimated credit losses are included in other expense, net. The cost of investments for purposes of computing realized and unrealized gains and losses is based on the specific identification method. Amortization of premiums and accretion of discounts are included in other expense, net. Interest and dividends earned on all securities are included in other expense, net. Investments in debt securities with maturities of less than one year, or where management's intent is to use the investments to fund current operations, or to make them available for current operations, are classified as short-term investments.

Investments are presented net of an allowance for expected credit losses that are remeasured each period and any impairment recognized as an expense. The Company has considered all information and factors and noted no indicators that a credit loss exists as of December 31, 2020. The Company has not experienced any significant investment credit losses to date.

Accounts Receivable and Allowance for Credit Losses

Accounts receivable are stated net of an allowance for credit losses. The Company uses available information over the life of the receivables including analysis of past credit losses, recoveries of past credit losses, management's expectations of future economic positions, as well as market conditions and other extenuating factors to support the allowance estimate.

Concentration of Credit Risks

Financial instruments that potentially expose the Company to concentrations of credit risk consist principally of cash and cash equivalents, short-term investments and accounts receivable. Cash is invested in accordance with the Company's investment policy, which includes guidelines intended to minimize and diversify credit risk. Most of the Company's investments are not federally insured. The Company has credit risk related to the collectability of its accounts receivable. The Company performs initial and ongoing evaluations of its customers' credit history or financial position and generally extends credit on account without collateral. The Company has not experienced any significant credit losses to date.

The Company had one customer/collaborator, Lam Research Corporation ("Lam"), that represented 4%, 13% and 17% of total revenue for the years ended December 31, 2020, 2019 and 2018, respectively. The Company had no customers or collaborators that represented more than 10% of total accounts receivable as of December 31, 2020 and 2019.

The Company is also subject to supply chain risks related to the outsourcing of the manufacturing and production of its instruments to sole suppliers. Although there are a limited number of manufacturers for instruments of this type, the Company believes that other suppliers could provide similar products on comparable terms. Similarly, the Company sources certain raw materials used in the manufacture of consumables from certain sole suppliers. A change in suppliers, however, could cause a delay in manufacturing and a possible loss of sales, which would adversely affect operating results.

Fair value of financial instruments

The recorded amounts of certain financial instruments, including cash and cash equivalents, accounts receivable, prepaid expenses and other assets, accounts payable and accrued liabilities approximate fair value due to their relatively short maturities. Investments that are classified as available-for-sale are recorded at fair value. The fair value for investment securities held and for convertible senior notes are determined using quoted market prices, broker or dealer quotations, or alternative pricing sources with reasonable levels of price transparency.

Inventory

Inventory consists of finished goods, work in process, raw materials and certain component parts to be used in manufacturing or servicing the Company's products. Inventory is stated at the lower of cost or net realizable value. Cost is determined using a standard cost system, whereby the standard costs are updated periodically to reflect current costs and market represents the lower of cost or market (replacement cost or estimated net realizable value). The Company's policy is to establish inventory reserves when conditions exist that suggest that inventory may be in excess of anticipated demand, obsolete, slow moving or impaired. In the event that the Company identifies these conditions exist in its inventory, its carrying value is reduced to its net realizable value. Inventory reserves were $5.0 million and $4.1 million as of December 31, 2020 and 2019, respectively.

The Company outsources the manufacturing of its instruments to third-party contract manufacturers who manufacture them to certain specifications and source certain raw materials from sole source providers. Major delays in shipments, inferior quality, insufficient quantity or any combination of these or other factors may harm the Company's business and results of operations. In addition, the inability of one or more of these suppliers to provide the Company with an adequate supply of its products or raw materials or the loss of one or more of these suppliers may cause a delay in the Company's ability to fulfill orders while it obtains a replacement supplier and may harm the Company's business and results of operations.

Property and Equipment

Property and equipment are recorded at cost, net of accumulated depreciation and amortization. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets. Expenditures for additions are capitalized and expenditures for maintenance and repairs are expensed as incurred. Gains and losses from the disposal of property and equipment are reflected in the consolidated statements of operations in the period of disposition.

	Useful Life
Manufacturing equipment	5 years
Prototype systems	2 years
Computer equipment	3 years
Furniture and fixtures	5 years
Leasehold improvements	Lesser of useful life or lease term

Leases

The Company determines if an arrangement is a lease at inception of a contract. The Company's leasing portfolio is comprised of operating and finance leases primarily for general office, manufacturing and research and development purposes. Operating and finance lease liabilities and the corresponding right-of-use assets are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. Operating lease right-of-use assets are reduced by lease incentives included in the agreement. As the existing leases do not contain an implicit interest rate, the Company estimates its incremental borrowing rate based on information available at commencement date in determining the present value of future payments. The Company includes options to extend the lease in the lease liability and right-of-use asset when it is reasonably certain that the option will be exercised. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term. The Company elected, as an accounting policy election, to use the short-term lease recognition exemption on all classes of assets. Leases with an initial term of 12 months or less are not recorded on the balance sheet and the Company recognizes lease payments as an expense on a straight-line basis over the lease term. The Company has lease office agreements with lease and non-lease components, which are generally accounted for separately. For lease equipment agreements, the Company accounts for the lease and non-lease components as a single lease component. The Company's lease agreements do not contain any material variable lease payments, material residual value guarantees or any material restrictive covenants.

Rent Expense and Leasehold Improvements

Prior to the adoption of "ASU 2016-02, Leases - Recognition and Measurement of Financial Assets and Financial Liabilities," on January 1, 2019, the Company recognized rent expense for leases that provided for scheduled rent increases during the lease term on a straight-line basis over the term of the related lease. Leasehold improvements funded by landlord incentives or allowances were recorded in property and equipment and as a component of deferred rent and amortized as a reduction of rent expense over the term of the related lease.

Impairment of Long-Lived Assets

The Company recognizes impairment losses on long-lived assets when indicators of impairment are present and the anticipated undiscounted cash flows to be generated by those assets are less than the asset's carrying values. During 2019, as a result of its sale of a business to Veracyte, the Company impaired certain leased and loaner nCounter instruments with a carrying value of $1.1 million which no longer had future economic value to the Company. Other than the impairment resulting from the Veracyte transaction in 2019, the Company has not experienced material impairment losses on its long-lived assets during the periods presented.

Convertible Senior Notes

In accordance with accounting guidance for debt with conversion and other options, the Company separately accounted for the liability and equity components of the 2.625% Convertible Senior Notes due 2025 ("Convertible Notes") by allocating the proceeds between the liability component and the embedded conversion feature, or the equity component, due to the Company's ability to settle the Convertible Notes in cash, common stock or a combination of cash and common stock, at its option. The Company's current intent is to settle the principal amount of the Convertible Notes in cash upon conversion, with any remaining conversion value being delivered in shares of its common stock. The carrying amount of the liability component was calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The allocation was performed in a manner that reflected the Company's non-convertible debt borrowing rate for similar debt. The equity component of the Convertible Notes was recognized as a debt discount and represents the difference between the proceeds from the issuance of the Convertible Notes and the fair value of the liability of the Convertible Notes on their respective dates of issuance. The excess of the principal amount of the liability component over its carrying amount is the debt discount and is amortized to interest expense using the effective interest method over five years. The equity component is not remeasured as long as it continues to meet the conditions for equity classification. In connection with the issuance of the Convertible Notes, the Company also incurred certain financing costs associated directly with the issuance of the Convertible Notes. These issuance costs were deferred, and a portion of the deferred issuance costs have been deemed attributable to the equity component and have been allocated to additional paid-in capital. The remaining deferred issuance costs have been and

will continue to be amortized to interest expense over five years from the original issuance date using the effective interest method. See Note 10. Long-term Debt, Net for additional information regarding the Convertible Senior Notes.

Segments

Operating segments are defined as components of an entity for which separate financial information is available and evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. The Company's chief operating decision maker is the chief executive officer, who manages the operations and evaluates the financial performance on a total Company basis. The Company's principal operations and decision-making functions are located at its corporate headquarters in the United States and the Company operates as a single operating and reporting segment.

Revenue Recognition

The Company recognizes revenue when control of the promised goods or services is transferred to its customers, in an amount that reflects the consideration expected to be received in exchange for those products and services. This process involves identifying the contract with a customer, determining the performance obligations in the contract, determining the contract price, allocating the contract price to the distinct performance obligations in the contract and recognizing revenue when the performance obligations have been satisfied. A performance obligation is considered distinct from other obligations in a contract when it provides a benefit to the customer either on its own or together with other resources that are readily available to the customer and is separately identified in the contract. Performance obligations are considered satisfied once the Company has transferred control of a product or service to the customer, meaning the customer has the ability to use and obtain the benefit of the product or service. The Company recognizes revenue for satisfied performance obligations only when there are no uncertainties regarding payment terms or transfer of control.

The Company generates the majority of its revenue from sales of its proprietary nCounter Analysis System and its GeoMx DSP system, and related consumables. Services consist of instrument service contracts for maintenance, repair and other support related to customer owned instruments, and also certain service fees for assay processing and data analysis and reporting.

Revenue from instruments and consumables is recognized generally upon shipment to the end customer, which is when control of the product has been transferred to the customer. Performance obligations related to instrument sales are reviewed on a contract-by-contract basis, as individual contract terms may vary and revenue is recognized as performance obligations are satisfied. Performance obligations for consumable products are generally completed upon shipment to the customer. While the Company typically completes installation and training of its customers with field-based service personnel, these services can also be provided by distribution partners and other third parties.

Instrument service contracts are sold with contract terms ranging from 12-36 months and cover periods after the end of the initial 12-month warranty. These contracts include services to maintain performance within the Company's designed specifications and allow the customer to receive certain preventative maintenance service procedures during the contract term. Revenue from services to maintain designed specifications is considered a stand-ready obligation and recognized evenly over the contract term and service revenue related to preventative maintenance of instruments is recognized when the procedure is completed. Revenue from service fees for assay processing is recognized upon the rendering of the related performance obligation which is typically the delivery of data and analysis of the samples that have been processed.

For arrangements with multiple performance obligations, the Company allocates the contract price in proportion to its relative stand-alone selling price. The Company bundles most systems and consumables so uses its best estimate of selling price for its products based on historical sales and adjusted for similar products, geographies, and differences in customers. For service, the best estimate of selling price is based on historical stand-alone sales, as stand-alone sales on services are more readily available. The Company reviews its stand-alone prices at least annually or more frequently if facts and circumstances significantly change.

The Company generally recognizes expense related to the acquisition of contracts, such as sales commissions, at the time of revenue recognition, which is generally in the same period products are sold, and in the case of services, revenue is recognized as services are rendered or over the period of time covered by the service contract. The Company records commission expenses within selling, general and administrative expenses.

Product and service revenues from sales to customers through distributors are recognized consistent with the policies and practices for direct sales to customers, as described above.

Cost of Product and Service Revenue

Cost of product and service revenue consists primarily of costs incurred in the production process, including costs of purchasing instruments from third-party contract manufacturers, consumable component materials and assembly labor and overhead, installation, warranty, service and packaging and delivery costs. In addition, cost of product and service revenue includes royalty costs for licensed technologies included in the Company's products, provisions for slow-moving and obsolete inventory and stock-based compensation expense. Cost of product and service revenue for instruments and consumables is recognized in the period the related revenue is recognized. Shipping and handling costs incurred for product shipments are included in cost of product and service revenue in the consolidated statements of operations.

Reserve for Product Warranties

The Company generally provides a one-year warranty on both its nCounter Analysis Systems and GeoMx DSP systems, and establishes a reserve for future warranty costs based on historical product failure rates and actual warranty costs incurred. Warranty expense is recorded as a component of cost of product and service revenue in the consolidated statements of operations. Warranty reserves were $1.0 million and $0.7 million as of December 31, 2020 and 2019, respectively.

Research and Development

Research and development expenses, consisting primarily of salaries and benefits, stock-based compensation expense, occupancy costs, laboratory supplies, contracted services, consulting fees, software development and related costs, are expensed as incurred.

Selling, General and Administrative

Selling expenses consist primarily of personnel related costs for sales and marketing, contracted services and service fees and are expensed as the related costs are incurred. Advertising costs are expensed as incurred and are included in sales and marketing expenses. Advertising costs totaled approximately $3.4 million, $5.7 million and $4.8 million during the years ended December 31, 2020, 2019 and 2018, respectively.

General and administrative expenses consist primarily of personnel related costs for the Company's finance, human resources, business development, legal, information technology and general management, as well as professional fees for legal, accounting and other consulting services. General and administrative expenses are expensed as they are incurred.

Foreign Currency

The functional currency of our foreign subsidiaries is the U.S. dollar. Accordingly, monetary balance sheet accounts are remeasured using exchange rates in effect at the balance sheet dates and non-monetary items are remeasured at historical exchange rates. Expenses are generally remeasured at the average exchange rates for the period. Foreign currency remeasurement and transaction gains and losses are included in interest and other income (expense), net and were not material for the years ended December 31, 2020, 2019 and 2018, respectively.

Income Taxes

The Company accounts for income taxes under the liability method. Under the liability method, deferred tax assets and liabilities are determined based on the differences between the financial reporting and income tax bases of assets and liabilities and are measured using the tax rates that will be in effect when the differences are expected to reverse. A valuation allowance is recorded when it is more likely than not that some of the deferred tax assets will not be realized.

The Company determines whether a tax position is more likely than not to be sustained upon examination based on the technical merits of the position. For tax positions meeting the more-likely-than-not threshold, the tax amount recognized in the financial statements is reduced by the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement with the relevant tax authority.

Stock-Based Compensation

The Company accounts for stock-based compensation under the fair value method. Stock-based compensation costs related to stock options and restricted stock units ("RSUs") which are granted by the Company are calculated using the grant-date fair value, estimated using the Black-Scholes option pricing model for stock options and the intrinsic method for RSUs. Stock-based compensation expense is recognized based on the number of awards ultimately expected to vest, using actual forfeitures when incurred. The Company uses the straight-line attribution method over the vesting period for recognizing compensation expense for awards with a service condition. For awards with service and performance conditions, the accelerated recognition method is used over the graded vesting schedules for the awards.

Guarantees and Indemnifications

In the normal course of business, the Company guarantees and/or indemnifies other parties, including vendors, lessors and parties to transactions with the Company, with respect to certain matters. The Company has agreed to hold the other parties harmless against losses arising from breach of representations or covenants, or out of intellectual property infringement or other claims made against certain parties. It is not possible to determine the maximum potential amount the Company could be required to pay under these indemnification agreements, since the Company has not had any prior indemnification claims, and each claim would be based upon the unique facts and circumstances of the claim and the particular provisions of each agreement. In the opinion of management, any such claims would not be expected to have a material adverse effect on the Company's consolidated results of operations, financial condition or cash flows. The Company did not have any related liabilities recorded at December 31, 2020 and 2019.

Comprehensive Loss

Comprehensive loss includes certain changes in equity that are excluded from net loss. Specifically, unrealized gains and losses on available-for-sale debt securities are included in comprehensive (income) loss.

Recently Adopted Accounting Pronouncements

In June 2016, the FASB issued "ASU 2016-13, Financial Instruments: Credit Losses." The standard requires disclosure regarding expected credit losses on financial instruments at each reporting date, and changes how other than temporary impairments on investment securities are recorded. The Company adopted the ASU on January 1, 2020 using the modified retrospective transition approach and the adoption did not have a material impact on its consolidated results of operations, financial condition, cash flows and financial statement disclosures for the year ended December 31, 2020.

In August 2018, the FASB issued "ASU 2018-15, Intangibles — Goodwill and other — Internal-use software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract." The standard 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 Company adopted the standard, on a prospective basis, on January 1, 2020. Historically, the Company has had a practice of expensing the implementation costs related to cloud computing arrangements. Upon adoption of the standard, the Company may capitalize certain implementation costs for new cloud computing arrangements in other assets, and amortize the costs over the related service contract period for the hosted arrangement. The amortization of the implementation costs and the related service contract costs will be presented in its results of operations. The adoption did not have a material impact to the consolidated results of operations, financial condition, cash flows, and financial statement disclosures for the year ended December 31, 2020.

In November 2018, the FASB issued "ASU 2018-18, Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606." The new guidance clarifies when certain transactions between collaborative arrangement participants which should be accounted for as revenue under Topic 606. The Company adopted the standard on January 1, 2020. The Company has assessed its collaborative arrangements and concluded no adjustment is necessary, based on guidance in the standard.

In December 2019, the FASB issued "ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes." The new guidance simplifies the accounting for income taxes, eliminates certain exceptions within ASC 740, Income Taxes, and clarifies certain aspects of the current guidance to promote consistency among reporting entities. ASU 2019-12 is effective for fiscal years beginning after December 15, 2021, with early adoption permitted. Most amendments within the standard are required to be applied on a prospective basis, while certain amendments must be applied on a retrospective or modified retrospective basis. The Company adopted this ASU effective January 1, 2020 and, as a result, was able to determine the effect of income or loss from continuing operations using a computation that does not consider the tax effects of items that are not included in continuing operations. As such, for the year ended December 31, 2020, the Company did not record a tax expense or benefit in its net loss from operations related to deferred tax assets and liabilities associated with its Convertible Notes. See to Note 10. Long-term Debt, Net for additional information.

Recent Accounting Pronouncements

In August 2020, the FASB issued "ASU 2020-06, Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging — Contracts in Entity's Own Equity (Subtopic 815-40) Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging — Contracts in Entity's Own Equity (Subtopic 815-40)." The new guidance simplifies the number of accounting models for convertible instruments; and as a result, under the remaining available models, removes the requirement to separately account for conversion features between liability and equity components. The ASU will become effective for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020, with adoption as of the beginning of

the annual fiscal year. The Company is currently assessing the potential impact of the standard specific to its outstanding Convertible Notes and to its consolidated results of operations, financial condition, cash flows and financial statement disclosures.

3. Revenue from Contracts with Customers

The Company operates as a single reportable segment. The Company has one sales force that sells the Company's nCounter Analysis systems, its GeoMx DSP systems, and the consumables and services related to these platforms.

Disaggregated Revenues

The following table of total revenue is based on the geographic location of end users or distributors who purchase products and services, and of our collaborators. For sales to distributors, their geographic location may be different from the geographic location of the ultimate end customer. For collaboration agreements, revenues are derived from partners located primarily in the United States. Americas consists of the United States, Canada, Mexico and South America; and Asia Pacific includes Japan, China, South Korea, Singapore, Malaysia, India and Australia.

The following table provides information about disaggregated revenue by major product line and primary geographic market (in thousands):

	Year Ended December 31, 2020			
	Americas	Europe and Middle East	Asia Pacific	Total
Product revenue:				
Instruments	$ 30,016	$ 11,134	$ 6,680	$ 47,830
Consumables	34,922	12,203	2,972	50,097
Total product revenue	64,938	23,337	9,652	97,927
Service revenue	8,977	3,560	980	13,517
Total product and service revenue	73,915	26,897	10,632	111,444
Collaboration revenue	5,872	—	—	5,872
Total revenue	$ 79,787	$ 26,897	$ 10,632	$ 117,316

	Year Ended December 31, 2019			
	Americas	Europe and Middle East	Asia Pacific	Total
Product revenue:				
Instruments	$ 18,578	$ 8,083	$ 4,413	$ 31,074
Consumables	37,983	19,085	3,936	61,004
Total product revenue	56,561	27,168	8,349	92,078
Service revenue	7,724	3,121	791	11,636
Total product and service revenue	64,285	30,289	9,140	103,714
Collaboration revenue	21,854	—	—	21,854
Total revenue	$ 86,139	$ 30,289	$ 9,140	$ 125,568

	Year Ended December 31, 2018			
	Americas	Europe and Middle East	Asia Pacific	Total
Product revenue:				
Instruments	$ 12,033	$ 6,677	$ 2,731	$ 21,441
Consumables	32,667	16,941	3,684	53,292
Total product revenue	44,700	23,618	6,415	74,733
Service revenue	6,228	2,097	465	8,790
Total product and service revenue	50,928	25,715	6,880	83,523
Collaboration revenue	23,209	—	—	23,209
Total revenue	$ 74,137	$ 25,715	$ 6,880	$ 106,732

Total revenue in the United States was $77.5 million, $83.9 million and $71.2 million for the years ended December 31, 2020, 2019 and 2018, respectively. The Company's assets are primarily located in the United States and not allocated to any specific geographic region. Substantially all of the Company's long-lived assets are located in the United States.

Contract balances and remaining performance obligations

Contract liabilities are comprised of the current and long-term portions of deferred revenue of $7.0 million and $5.0 million as of December 31, 2020 and December 31, 2019, respectively, and customer deposits of $1.6 million and $6.4 million as of December 31, 2020 and December 31, 2019, respectively, included within the consolidated balance sheets. Total contract liabilities decreased by $2.7 million for the year ended December 31, 2020 as a result of the recognition of previously deferred revenue and customer deposits of $14.9 million for the completion of certain performance obligations during the period, partially offset by cash payments received of $12.2 million related to our collaborations and service contracts. The Company did not record any contract assets as of December 31, 2020. The Company's contractual payment terms for its contracts with customers approximate 45 days on average.

As of December 31, 2020, the Company had satisfied all performance obligations related to the collaboration agreement with Lam Research Corporation ("Lam") and all committed funding had been received and utilized by the Company in its research and development of its Hyb & Seq technologies. Performance obligations related to undelivered products and service contracts as of December 31, 2020 were $8.6 million and are expected to be completed over the term of the related contract, or as products are delivered.

4. Sale of Business to Veracyte

In December 2019, the Company entered into a License and Asset Purchase Agreement ("LAPA") and Service and Supply Agreements ("SSAs"), with Veracyte, Inc. ("Veracyte"). Pursuant to the LAPA, the Company completed a license of intellectual property and a sale of certain assets relating to the Company's nCounter FLEX platform for use in clinical diagnostic applications, including Prosigna distribution rights to Veracyte. Additionally, the Company provided Veracyte a worldwide exclusive license to market and sell clinical diagnostic tests developed for the Company's nCounter FLEX platform, including worldwide rights to Prosigna. Veracyte also acquired certain intellectual property rights from the Company relating to Prosigna and the Company's proprietary LymphMark assay.

Pursuant to the terms of the LAPA, Veracyte paid the Company total consideration of $50.0 million, consisting of $40.0 million in cash paid in connection with the entry into the LAPA, and 376,732 shares of Veracyte common stock valued at $10.0 million, which shares were issued in connection with the entry into the LAPA. Additionally, the Company may receive future potential milestone payments of up to $10.0 million in the aggregate, to be paid upon the launch of additional clinical diagnostic tests by Veracyte for the Company's nCounter FLEX platform. In addition, Veracyte has agreed to assume the obligation to pay specified royalties under the Company's existing agreement with Bioclassifier, LLC, which was assigned to Veracyte in connection with the transaction. Pursuant to the LAPA, Veracyte offered certain of the Company's employees employment with Veracyte.

Pursuant to the SSAs, the Company agreed to supply to Veracyte nCounter FLEX systems, and also agreed to manufacture and supply Prosigna kits, LymphMark kits and any additional clinical diagnostic tests that Veracyte may develop in the future for nCounter, for a period of at least four years subsequent to the transaction date. Pursuant to these SSAs, Veracyte will pay the designated transfer prices for nCounter FLEX systems, Prosigna kits, LymphMark kits and any other nCounter-based diagnostic tests developed by Veracyte.

The sale of assets and license pursuant to the LAPA was considered the disposition of a business and, accordingly, the Company has included a gain on sale of business, net of $48.9 million as non-operating income in the consolidated statements of operations as of December 31, 2019, net of transaction costs of $1.1 million. The disposition did not represent a strategic shift that will have a major effect on the Company's operations and financial results. The cash consideration received at closing, as well as any future cash payments received pursuant to the future milestones will be recognized as an investing cash in-flow in the consolidated statements of cash flows. Substantially all of the intangible assets sold had no book value for the Company. The Company has not recognized any gain related to the future milestone payments as these are considered contingent consideration for which a gain will be recognized in the future when the milestones are achieved and the gain is realizable. The Company has accounted for the Veracyte common stock in accordance with ASC 321, *Investments - Equity Securities*. At December 31, 2019, the Company had included the shares of Veracyte common stock, at fair value, within short-term investments. Subsequently, and during the first half of 2020, the Company disposed of all shares of Veracyte common stock received as part of the initial transaction consideration. All gains or losses related to the disposition of these securities has been included within other income (loss) in the consolidated statements of operations. The $40.0 million of cash received on the closing date was included in cash and cash equivalents on the consolidated balance sheets as of December 31, 2019.

5. Leases

The Company is obligated to make future minimum payments under four operating leases for 134,296 square feet of space used for manufacturing, research and development and general operations primarily in the greater Seattle area. The operating leases have terms that expire from 2026 to 2030 and include renewal options to extend the lease term at the then current fair market rental for each of the lease agreements. None of the options to extend the rental term of existing leases were considered reasonably certain as of December 31, 2020. The Company's operating leases contain rent abatement periods, scheduled rent increases and provide for tenant improvement allowances. In addition, the Company enters into finance lease right-of-use assets, included in other assets, and lease liabilities, included in deferred revenues and other liabilities, primarily for equipment used in its operations. The Company's lease agreements do not contain any material variable lease payments, material residual value guarantees or any material restrictive covenants.

The following table provides the components of the Company's lease cost (in thousands):

	2020	2019
Operating lease cost	$ 5,354	$ 6,004
Finance lease cost:		
Amortization of right-of-use assets	138	—
Interest on lease liabilities	16	—
Total lease cost	$ 5,508	$ 6,004

Rent expense totaled approximately $4.9 million for the year ended December 31, 2018.

Other information related to leases for the year ended December 31 were as follows (in thousands):

	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 3,160	$ 5,579
Operating cash flows from finance leases	138	—
Financing cash flows from finance leases	135	—
Weighted average remaining lease term (years) - operating leases	5.8	6.7
Weighted average remaining lease term (years) - financing leases	2.4	N/A
Weighted average discount rate - operating leases	7.1 %	7.1 %
Weighted average discount rate - financing leases	4.8 %	N/A

Future minimum lease payments under the lease agreements as of December 31, 2020 were as follows (in thousands):

	Finance	Operating
2021	$ 196	$ 6,266
2022	196	6,327
2023	67	6,506
2024	16	6,690
2025	—	6,880
Thereafter	—	4,107
Total future minimum lease payments	475	36,776
Less: imputed interest	(28)	(6,860)
Total	$ 447	$ 29,916

6. Short-term Investments

Short-term investments consisted of available-for-sale and equity securities as follows (in thousands):

Type of securities as of December 31, 2020	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Corporate debt securities	$ 22,338	$ 71	$ —	$ 22,409
U.S. government-related debt securities	5,000	3	—	5,003
Asset-backed securities	1,462	9	—	1,471
Total available-for-sale debt securities	$ 28,800	$ 83	$ —	$ 28,883

Type of securities as of December 31, 2019	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Corporate debt securities	$ 78,243	$ 89	$ (2)	$ 78,330
U.S. government-related debt securities	26,966	37	—	27,003
Asset-backed securities	11,950	21	—	11,971
Total available-for-sale debt securities	117,159	147	(2)	117,304
Corporate equity securities	9,893	625	—	10,518
Total short-term investment securities	$ 127,052	$ 772	$ (2)	$ 127,822

The fair values of available-for-sale debt securities by contractual maturity at December 31 were as follows (in thousands):

	2020	2019
Maturing in one year or less	$ 28,883	$ 101,751
Maturing in one to three years	—	15,553
Total available-for-sale debt securities	28,883	117,304

7. Fair Value Measurements

The Company establishes the fair value of its assets and liabilities using the price that would be received to sell an asset or paid to transfer a financial liability in an orderly transaction between market participants at the measurement date. A fair value hierarchy is used to measure fair value. The three levels of the fair value hierarchy are as follows:

- Level 1 — Quoted prices in active markets for identical assets and liabilities.
- Level 2 — Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs and significant value drivers are observable in active markets.
- Level 3 — Valuations derived from valuation techniques in which one or more significant inputs or significant value drivers are unobservable.

The recorded amounts of certain financial instruments, including cash, accounts receivable, prepaid expenses and other, accounts payable and accrued liabilities, approximate fair value due to their relatively short-term maturities. The recorded amount of the Company's long-term debt can be determined based on the estimated or actual bid prices of the Convertible Senior Notes in an over-the-counter market, which are classified as a Level 2 financial instrument.

The Company's investments by level within the fair value hierarchy were as follows (in thousands):

	Fair value measurement using:			
Type of securities as of December 31, 2020	**Level 1**	**Level 2**	**Level 3**	**Total**
Cash equivalents:				
Money market fund	$ 400,757	$ —	$ —	$ 400,757
Short-term investments:				
Corporate debt securities	—	22,409	—	22,409
U.S. government-related debt securities	—	5,003	—	5,003
Asset-backed securities	—	1,471	—	1,471
Total	$ 400,757	$ 28,883	$ —	$ 429,640

	Fair value measurement using:			
Type of securities as of December 31, 2019	**Level 1**	**Level 2**	**Level 3**	**Total**
Cash equivalents:				
Money market fund	$ 22,152	$ —	$ —	$ 22,152
Short-term investments:				
Corporate debt securities	—	78,330	—	78,330
U.S. government-related debt securities	—	27,003	—	27,003
Asset-backed securities	—	11,971	—	11,971
Corporate equity securities	10,518	—	—	10,518
Total	$ 32,670	$ 117,304	$ —	$ 149,974

In March 2020, the Company issued $230.0 million of Convertible Senior Notes of which $88.6 million was used to repay amounts owed and fees associated with the termination of its term loan agreement and revolving line of credit as described in more detail in Note 10. Long-term Debt, Net. As of December 31, 2020, the fair value of the Convertible Senior Notes was $355.4 million.

8. Inventory, Net

Inventory consisted of the following at December 31 (in thousands):

	2020	**2019**
Raw materials	$ 4,286	$ 4,620
Work in process	5,981	4,617
Finished goods	12,692	10,544
Total inventory, net	$ 22,959	$ 19,781

9. Property and Equipment

Property and equipment consisted of the following at December 31 (in thousands):

	Useful Life (Years)	2020	2019
Manufacturing equipment	5	$ 15,311	$ 12,292
Prototype instruments	2	2,128	2,202
Computer equipment	3	3,860	2,779
Furniture and fixtures	5	1,990	1,565
Leasehold improvements	Various	19,347	12,005
Construction in progress		1,233	7,592
Total property and equipment, gross		43,869	38,435
Less: Accumulated depreciation and amortization		(23,041)	(18,251)
Total property and equipment, net		$ 20,828	$ 20,184

Prototype instruments consist of various nCounter and GeoMx DSP instruments used in internal testing and other development activities. During 2019, the Company disposed of leased and loaner instruments, in conjunction with the Veracyte LAPA agreement.

Depreciation and amortization expense related to property and equipment for the years ended December 31, 2020, 2019 and 2018 totaled approximately $5.7 million, $4.9 million and $4.0 million, respectively.

10. Long-term Debt

Convertible Senior Notes

In March 2020, the Company issued $230.0 million in aggregate principal amount of 2.625% Convertible Senior Notes due 2025 (“Convertible Notes”) in a private offering. The Convertible Notes are governed by an indenture dated March 9, 2020 between the Company and U.S. Bank, National Association, as trustee.

The Company received net proceeds from the offering of $222.6 million. The Company used $88.6 million to repay in full all outstanding amounts borrowed, accrued interest and fees owed in connection with the termination of the Company’s amended and restated term loan agreement (“2018 Term Loan”) with Capital Royalty Group, and the fees owed in connection with the termination of the Company’s revolving credit facility with Silicon Valley Bank.

The Convertible Notes bear interest at a rate of 2.625% per year, payable semi-annually in arrears on March 1 and September 1, beginning on September 1, 2020. The Convertible Notes may bear additional interest under specified circumstances relating to the Company’s failure to comply with its reporting obligations under, or if the Convertible Notes are not freely tradeable as required by, the indenture governing the Convertible Notes. Upon conversion, the Convertible Notes will be convertible into cash, shares of common stock or a combination of cash and shares of common stock, at the Company’s election. The Company’s current intent is to settle the principal amount of the Convertible Notes in cash upon conversion, with any remaining conversion value being delivered in shares of its common stock.

The Convertible Notes are general unsecured senior obligations and will mature on March 1, 2025, unless earlier repurchased, redeemed or converted, subject to satisfaction of certain conditions and during the periods described below. The initial conversion rate for the Convertible Notes is 20.9161 shares of common stock, par value $0.0001 per share, per $1,000 principal amount of Convertible Notes (which is equivalent to an initial conversion price of approximately $47.81 per share). The conversion rate will be subject to adjustment in some events but will not be adjusted for any accrued and unpaid interest. In addition, following certain corporate events that may occur prior to the maturity date or if the Company issues a notice of redemption, the Company will increase the conversion rate for a holder who elects to convert its Convertible Notes in connection with such corporate event or in connection with such redemption, as the case may be, in certain circumstances.

Prior to the close of business on the business day immediately preceding December 1, 2024, the Convertible Notes will be convertible only under the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on June 30, 2020 (and only during such calendar quarter), if the last reported sale price of the common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day; (2) during the five business-day period after any five consecutive trading-day period in which the trading price per $1,000 principal amount of Convertible Notes for each trading day of such period was less than 98% of the product of the last reported sale price of the common stock and the conversion rate on each such trading day; (3) if the Company calls any or all of the Convertible Notes for redemption, the Convertible Notes called for redemption (or, in the case

of a partial redemption, if the Company makes an election to redeem all Convertible Notes, irrespective of whether they are called for redemption, to be convertible, all Convertible Notes) may be submitted for conversion at any time prior to the close of business on the scheduled trading day immediately preceding the redemption date as set forth in the related redemption notice; or (4) upon the occurrence of specified corporate events. On or after December 1, 2024, until the close of business on the business day immediately preceding the maturity date, holders of the Convertible Notes may convert all or any portion of their Convertible Notes at any time, regardless of the foregoing circumstances.

The Company may not redeem the Convertible Notes prior to March 5, 2023, and no sinking fund is provided for the Convertible Notes. On or after March 5, 2023, the Company may redeem for cash all or any portion of the Convertible Notes, at its option, if the last reported sale price of the common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading-day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which the Company provides a notice of redemption at a redemption price equal to 100% of the principal amount of the Convertible Notes to be redeemed, plus any accrued and unpaid interest to, but excluding, the redemption date.

Upon the occurrence of a fundamental change (as defined in the indenture governing the Convertible Notes) prior to the maturity date, subject to certain conditions, holders may require the Company to repurchase all or a portion of the Convertible Notes in increments of $1,000 for cash at a price equal to 100% of the principal amount of the Convertible Notes to be repurchased, plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

The Convertible Notes do not contain any financial or operating covenants or any restrictions on the issuance of other indebtedness or the issuance or repurchase of securities by the Company. The Convertible Notes indenture contains customary events of default, including that upon certain events of default, 100% of the principal and accrued and unpaid interest on the Convertible Notes will automatically become due and payable.

As the Company has the ability to settle the Convertible Notes in cash, common stock or a combination thereof, the Company separately accounted for the embedded conversion feature of the Convertible Notes by allocating proceeds between a liability and an equity component. The initial amount of the liability component of $169.5 million was calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The borrowing rate was determined to be 9.35% based on the market rates for nonconvertible debt instruments issued by other companies with publicly available credit ratings considered to be comparable to the Company. The residual between the proceeds from the issuance of $230.0 million and the fair value of the liability component of $169.5 million is allocated to the equity component (residual method), which was recorded at $60.5 million and recognized as a debt discount. The Company incurred approximately $7.4 million of debt issuance costs, which primarily consisted of underwriting, legal and other professional fees directly associated with the issuance. The issuance costs were allocated to the liability and equity component proportionately based on the allocation of total proceeds. The equity component of $58.5 million, net of issuance costs of $1.9 million, was recorded in additional paid-in capital in the Company's condensed consolidated balance sheets and will not be remeasured as long as it continues to meet the conditions for equity classification. The liability component, net of issuance costs of $5.5 million, was recorded as long-term debt, net in the Company's condensed consolidated balance sheets. The debt discount and debt issuance costs allocated to the liability component will be amortized to interest expense using the effective interest method over five years, the term of the Convertible Notes.

While the Convertible Notes are classified on the Company's consolidated balance sheet at December 31, 2020 as long-term, the resulting balance sheet classification of this liability will be monitored at each quarterly reporting date and will be analyzed dependent upon whether the Convertible Notes are convertible or subject to an event triggering potential redemption during the prescribed measurement periods. In the event that the holders of the Convertible Notes have the election to convert the Convertible Notes or the Convertible Notes become redeemable at any time during the prescribed measurement period, the Convertible Notes would then be considered a current obligation and classified as such.

While for GAAP purposes, the Convertible Notes are allocated between the liability component and the equity component, for U.S. tax purposes there is no allocation, and a deferred tax liability is recognized related to such difference. The Company adopted "ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes" effective January 1, 2020 and, as a result, was able to determine the effect of income or loss from continuing operations using a computation that does not consider the tax effects of items that are not included in continuing operations, including the deferred tax liability associated with the Company's convertible notes. As such, for the year ended December 31, 2020, the Company did not record a tax expense or benefit in its consolidated net loss from operations related to deferred tax assets and liabilities associated with its Convertible Notes.

All future principal payments related to the Convertible Notes are due in March 2025. The outstanding balances of the Company's Convertible Notes and previously outstanding term loan consisted of the following at December 31 (in thousands):

	2020	2019
Outstanding principal of Convertible Note	$ 230,000	$ —
Borrowings under term loan agreement	—	80,000
Paid-in-kind interest on term loan agreement	—	2,593
Less: unamortized debt discounts and issuance costs	(57,297)	(2,642)
Long-term debt, net	$ 172,703	$ 79,951

Based on the closing price of our common stock of $66.88 on the last trading day of the quarter, the if-converted values of the Convertible Notes exceeded the remaining principal amounts by $91.7 million as of December 31, 2020. During the three months ended December 31, 2020, the conditions allowing holders of the Convertible Notes to convert were not met.

The following table sets forth total interest expense recognized related to the Convertible Notes (in thousands):

	For the Year Ending December 31, 2020
Contractual interest expense	$ 4,897
Amortization of debt discount and issuance costs	8,650
Total interest expense	$ 13,547

Term Loan Agreement

In October 2018, the Company entered into an amended and restated term loan agreement with Capital Royalty Group (the "2018 Term Loan"), under which it could borrow up to $100.0 million, which was due and payable in September 2024. The 2018 Term Loan accrued interest at a rate of 10.5%, payable quarterly, of which 3.0% could be deferred, at the Company's election, during the six-year term and repaid at maturity together with the principal. The Company paid an upfront fee of 0.5% of the aggregate principal amount of the initial borrowing under the 2018 Term Loan, and was required to pay a facility fee equal to 2.0% of the total amount borrowed including any deferred interest at the time the principal is repaid. The Company borrowed a total of $80.0 million under the 2018 Term Loan and obligations were collateralized by substantially all of the Company's assets.

In connection with entry into the 2018 Term Loan, warrants to purchase an aggregate of 341,578 shares of common stock with an exercise price per share of $21.12 were issued to the lenders. In June 2019, in connection with the borrowing of an additional $20.0 million principal amount, warrants to purchase an aggregate of 128,932 shares of common stock with an exercise price per share of $34.20 were issued to the lenders.

In March 2020, the Company terminated the 2018 Term Loan agreement. The Company used $88.6 million of the proceeds from the Convertible Notes to repay in full all outstanding principle, interest and fees associated with termination of the loan.

For the year ended December 31, 2020, the Company incurred interest expense of $15.4 million, related to the 2018 Term Loan and the Convertible Notes. For the years ended December 31, 2019 and 2018, the Company incurred interest expense of $8.5 million and $7.4 million, respectively, associated with the 2018 Term Loan.

The terminations of the previous debt facilities were accounted for as debt extinguishment and the Company recorded a charge of $6.6 million associated with the elimination of previously deferred financing costs, and for fees and penalties incurred upon termination of the facilities and other costs. These costs have been included as a Loss on extinguishment of debt and termination of revolving loan facility in the Company's consolidated statements of operations.

2018 Revolving Loan Facility

In January 2018, the Company entered into a $15.0 million secured revolving loan facility, with availability subject to a borrowing base consisting of eligible accounts receivable. In November 2018, the Company entered into an amended and restated loan and security agreement to increase the borrowing capacity under the facility to $20.0 million, amend the borrowing base to include finished goods inventory, and extend the final maturity under the facility to November 2021.

In March 2020, the Company terminated the revolving loan facility and paid termination fees of $0.5 million. There were no amounts outstanding under the revolving loan facility at the time of termination. These costs have been included as a Loss on extinguishment of debt and termination of revolving loan facility in the Company's consolidated statements of operations.

11. Collaboration Agreements

At the time of entering into collaboration agreements, the Company evaluates the appropriate presentation and classification of payments within its consolidated financial statements based on the nature of the arrangement, the nature of its business operations and the contractual terms of the arrangement. The Company has determined that amounts to be received from collaborators in connection with its collaboration agreements entered into through December 31, 2020 are related to revenue generating activities.

For certain types of historical collaboration agreements in which the Company received up front payments, or milestone or contractual based payments, the Company used a contingency-adjusted proportional performance model to recognize revenue over the Company's performance period for each collaboration agreement. Costs incurred to date compared to total expected costs are used to determine proportional performance, as this is considered to be representative of the delivery of outputs under the arrangement. Revenue recognized at any point in time is a factor of and limited to cash received and amounts contractually due. Changes in estimates of total expected costs are accounted for prospectively in the period of change.

The Company recognizes revenue from collaboration agreements that do not include up front, milestone-based, or other contractual payments when earned, which is generally in the same period that related costs are incurred. Amounts due to collaboration partners are recognized when the related activities have occurred and are classified in the statement of operations, generally as research and development expense, based on the nature of the related activities.

Lam Research Corporation

In August 2017, the Company entered into a collaboration agreement with Lam with respect to the development of the Company's Hyb & Seq platform and related assays. Pursuant to the terms of the collaboration agreement, Lam contributed up to an aggregate of $50.0 million towards the project. Lam is eligible to receive certain single-digit percentage royalty payments from the Company on net sales of certain products and technologies developed under the collaboration agreement, if any such net sales are ever recorded. The maximum amount of royalties payable to Lam will be capped at an amount up to three times the amount of development funding actually provided by Lam. The Company retains exclusive rights to obtain regulatory approval, manufacture and commercialize the Hyb & Seq products. Lam participates in research and product development through a joint steering committee. The Company will reimburse Lam for the cost of up to 10 full-time Lam employees each year in accordance with the product development plan.

The Company recognized revenue related to the Lam agreement of $4.8 million, $16.3 million and $18.6 million for the years ended December 31, 2020, 2019 and 2018, respectively. The Company received development funding of $14.9 million and $21.7 million related to the Lam collaboration for the years ended December 31, 2019 and 2018, respectively. As of December 31, 2019, Lam had provided the full development funding commitment of $50.0 million and the Company does not expect to receive any further funding from Lam in future periods.

In January 2020, Lam elected to exercise, in full, its warrant for 1.0 million shares of common stock, for which the Company issued an aggregate of 407,247 shares to Lam. In connection with Lam's exercise of the warrant, the Company agreed to waive certain restrictions associated with the sale of the common stock in exchange for commitments by Lam related to the method and timing of Lam's sale of the shares.

Celgene Corporation

In March 2014, the Company entered into a collaboration agreement with Celgene Corporation ("Celgene") to develop, seek regulatory approval for, and commercialize a companion diagnostic using the nCounter Analysis System to identify a subset of patients with Diffuse Large B-Cell Lymphoma. In February 2018, the Company and Celgene entered into an amendment to their collaboration agreement in which Celgene agreed to provide the Company additional funding for work intended to enable a subtype and prognostic indication for the test being developed under the agreement for Celgene's drug REVLIMID. In connection with this amendment, the Company agreed to remove the right to receive payments from Celgene in the event commercial sales of the companion diagnostic test do not exceed certain pre-specified minimum annual revenues during the first three years following regulatory approval. In addition, the amendment allows Celgene, at its election, to use trial samples with additional technologies for companion diagnostics.

Pursuant to its collaboration with Celgene, the Company had been developing an *in vitro* diagnostic test, LymphMark, as a potential companion diagnostic to aid in identifying patients with diffuse large B-cell lymphoma (DLBCL) for treatment. In April 2019, Celgene announced that the trial evaluating REVLIMID for the treatment of DLBCL did not meet its primary endpoint. In May 2019, the Company's collaboration agreement with Celgene was terminated effective July 2019, resulting in the recognition of substantially all of the remaining deferred revenue from the agreement.

The Company recognized revenue related to the Celgene agreement of $4.4 million and $2.6 million for the years ended December 31, 2019 and 2018, respectively. The Company received development funding of $1.1 million and $0.6 million for the years ended December 31, 2019 and 2018, respectively.

Merck & Co., Inc.

In May 2015, the Company entered into a clinical research collaboration agreement with Merck Sharp & Dohme Corp., a subsidiary of Merck & Co., Inc. ("Merck"), to develop an assay intended to optimize immune-related gene expression signatures and evaluate the potential to predict benefit from Merck's anti-PD-1 therapy, KEYTRUDA. However, in October 2017, Merck notified the Company of its decision not to pursue regulatory approval of the companion diagnostic test for KEYTRUDA and, in August 2018, the Company and Merck agreed to mutually terminate their development collaboration agreement, effective as of September 30, 2018, following the completion of certain close-out activities. As part of the mutual termination agreement, Merck granted to the Company a non-exclusive license to certain intellectual property that relates to Merck's tumor inflammation signature. The Company recognized revenue related to the Merck agreement of $1.6 million for the year ended December 31, 2018. The Company received development funding of $1.1 million for the year ended December 31, 2018.

12. Common Stock and Preferred Stock

Public Offerings

In January 2018, the Company entered into a Sales Agreement with a sales agent to sell shares of the Company's common stock through an "at the market" equity offering program for up to $40.0 million in gross cash proceeds. In March 2019, subsequent to the Company's most recent public offering, the Company terminated this agreement. No shares of the Company's common stock were sold under this agreement.

In July 2018, the Company completed an underwritten public offering of 4,600,000 shares of common stock, including the exercise in full by the underwriters of their option to purchase 600,000 additional shares of common stock in August 2018, for total gross proceeds of $57.5 million. After underwriter's commissions and other expenses of the offering, the Company's aggregate net proceeds were approximately $53.8 million.

In March 2019, the Company completed an underwritten public offering of 3,175,000 shares of its common stock, including the exercise in full by the underwriters of their option to purchase 675,000 additional shares of common stock. An additional 2,000,000 shares were sold by a related party stockholder. The Company's total gross proceeds were $73.0 million. The Company did not receive any proceeds from the sale of shares of common stock by the related party stockholder. After underwriter's commissions and other expenses of the offering, the Company's aggregate net proceeds were approximately $68.3 million.

In October 2020, the Company completed an underwritten public offering of 5,750,000 shares of its common stock, including the exercise in full by the underwriters of their option to purchase 750,000 additional shares of common stock. The Company's total gross proceeds were $230.0 million. After underwriter's commissions and other expenses of the offering, the Company's aggregate net proceeds were $215.8 million.

Common Stock

Each share of common stock is entitled to one vote. The holders of common stock are also entitled to receive dividends whenever funds are legally available and when declared by the board of directors, subject to the prior rights of holders of other classes of stock outstanding.

Preferred Stock

Pursuant to the amended and restated certificate of incorporation filed by the Company immediately prior to the completion of its initial public offering, the Company's board of directors is authorized to issue up to 15,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, redemption rights, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing change in the Company's control or other corporate action. As of December 31, 2020, no shares of preferred stock were issued or outstanding, and the board of directors has not authorized or designated any rights, preferences, privileges and restrictions for any class of preferred stock.

Warrants

Prior to the Company's initial public offering, warrants to purchase preferred stock were issued related to certain financing transactions. All preferred stock warrants were converted into warrants to purchase common stock upon the effectiveness of the initial public offering. In addition, the Company has issued common stock warrants to third parties in

accordance with the provisions of certain debt and collaboration agreements. As of December 31, 2020, there were 470,510 common stock warrants outstanding with a weighted average exercise price of $24.70 per share and expiration dates in 2025.

13. Stock-based Compensation

2004 Stock Option Plan and 2013 Equity Incentive Plan

The Company's 2004 Stock Option Plan, 2013 Equity Incentive Plan, and the 2018 Inducement Equity Incentive Plan (the "Plans") authorize the grant of stock options, restricted stock units ("RSUs") and other equity awards to employees, directors and consultants. As of December 31, 2020, there were 11,835,327 shares authorized under the Plans. The Company has also granted RSUs that include service or service and certain performance conditions. These RSUs generally vest over service periods of 1-3 years at which time award recipients receive shares of common stock equivalent to the originally awarded number of RSUs. In the case of RSUs with service and performance obligation requirements, the number of RSUs that vest will be contingent on satisfying the service period and also based on achievement of all or part of the required performance obligations. All stock options granted have a ten-year term and generally vest and become exercisable over four years of continued employment or service as defined in each option agreement. The Board of Directors determines the option exercise price and may designate stock options granted as either incentive or nonstatutory stock options. The Company generally grants stock options to employees with exercise prices equal to the estimated fair value of the Company's common stock on the date of grant.

Stock Option Activity

A summary of the Company's stock option activity under the Plans is as follows:

	Shares	Weighted-average exercise price per share	Weighted-average remaining contractual term (in years)	Aggregate intrinsic value (in thousands)
Outstanding at January 1, 2020	4,192,122	$ 14.42	6.47	$ 56,218
Granted	91,052	26.06		
Canceled and forfeited	(169,049)	16.55		
Exercised	(1,483,602)	12.64		
Outstanding at December 31, 2020	2,630,523	$ 15.68	5.84	$ 134,670
December 31, 2020:				
Options vested and expected to vest	2,630,523	$ 15.68	5.84	$ 134,670
Options exercisable	1,901,861	$ 14.13	5.02	$ 34,348

The weighted-average grant-date fair value per share of options granted with exercise prices equal to the market price on the date of the grant were $18.89, $12.99 and $4.78 for the years ended December 31, 2020, 2019 and 2018, respectively. The aggregate intrinsic value in the table above is calculated as the difference between the exercise price of the underlying options and the quoted price of the Company's common stock for all options that were in-the-money at December 31, 2020. The aggregate intrinsic value of options exercised was $80.6 million during 2020, $19.9 million during 2019, and $2.2 million during 2018, determined as of the option exercise date. The fair value of options vested was $14.5 million, $6.3 million and $6.8 million for the years ended December 31, 2020, 2019 and 2018, respectively.

The following table summarizes information about the Company's stock options outstanding at December 31, 2020:

	Outstanding		Exercisable	
Exercise Price	Number of Shares	Weighted-Average Remaining Contractual Life in Years	Number of Shares	Weighted-Average Remaining Contractual Life in Years
$1.92 – $12.56	686,488	4.81	527,069	4.12
$12.77 – $14.99	584,628	4.74	563,444	4.64
$15.21 – $18.55	344,177	4.41	297,704	3.99
$18.68 – $22.71	393,152	6.55	302,418	6.04
$23.00 – $29.13	622,078	8.33	211,226	8.28
	2,630,523		1,901,861	

Restricted Stock Unit (RSU) Activity

A summary of RSU activity under the Plans is as follows:

Non-vested RSUs	Share Equivalent	Weighted-Average Grant Date Fair Value
Non-vested at January 1, 2020	1,435,774	$ 18.69
Changes during the year:		
Granted	824,827	29.15
Vested	(455,278)	15.29
Forfeited	(200,601)	21.98
Non-vested at December 31, 2020	1,604,722	$ 24.61

The fair value of the RSUs is determined based on the closing price of the Company's common stock on the date of grant. The fair value of vested RSUs was $12.5 million, $17.6 million and $1.0 million for the years ended December 31, 2020, 2019 and 2018, respectively. During 2020, the Company modified certain of its RSUs for approximately 10 employees that contained both service and performance conditions which were originally granted in 2019. This modification resulted in incremental stock-based compensation expense of $4.7 million which will be recognized beginning from the date of the modification and over the remaining vesting period of the awards.

Stock-based compensation

The following table sets forth stock-based compensation expense related to stock-based arrangements under the Plans as presented within the consolidated statement of operations for the years ended December 31 as follows (in thousands):

	2020	2019	2018
Cost of revenue	$ 983	$ 786	$ 616
Research and development	3,864	4,100	3,156
Selling, general and administrative	13,643	11,726	6,982
Total stock-based compensation expense	$ 18,490	$ 16,612	$ 10,754

As of December 31, 2020, total unrecognized stock-based compensation cost related to non-vested options and RSUs was $26.2 million for awards with a service component and $7.1 million for awards with a service and performance component. This cost will be recognized on a straight-line basis over the weighted-average remaining service period of 2.07 years, for stock awards with a service component, and 1.67 years for stock awards with a service and performance component . The Company utilizes newly issued shares to satisfy option exercises. No tax benefit was recognized related to stock-based compensation cost since the Company has not reported taxable income to date and has established a full valuation allowance to offset all of the potential tax benefits associated with its deferred tax assets.

Valuation assumptions

The fair value of each employee stock option grant was estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions:

	2020	2019	2018
Risk-free interest rates	0.54% — 1.69%	1.41% — 2.56%	2.22% — 3.01%
Expected term (years)	6.08	5.12 — 6.08	5.50 — 6.09
Expected dividend yield	—%	—%	—%
Expected volatility	53.0% — 59.6%	52.6% — 58.0%	56.0% — 57.7%

The risk-free interest rates are based on the implied yield currently available in U.S. Treasury securities at maturity with an equivalent term. For purposes of determining the expected term of the awards in the absence of sufficient historical data relating to stock-option exercises, the Company applies a simplified approach in which the expected term of an award is presumed to be the mid-point between the vesting date and the expiration date of the award. The Company has not declared or paid any dividends and does not currently expect to do so in the foreseeable future. Expected volatility is based on the historical cumulative volatility of the Company's stock price.

Employee Stock Purchase Plan

The Company's 2013 Employee Stock Purchase Plan ("ESPP") provides eligible employees with an opportunity to purchase common stock from the Company and to pay for their purchases through payroll deductions. The ESPP has overlapping offering periods of approximately 12 months in length. The offering periods generally start with the first trading day on or after March 1 and September 1 of each year and end on the first trading day on or after March 1 and September 1 of the following year, approximately 12 months later. Within each offering period, shares are purchased each six months on an exercise date.

An employee electing to participate in the ESPP (a "participant") will be granted an option at the start of the offering period to purchase shares with contributions in any whole percentage ranging from 0% to 10% (or greater or lesser percentages or dollar amounts that the administrator determines) of the participant's eligible compensation. The participant's contributions will be accumulated and then used to purchase the Company's shares on each exercise date. The purchase price on the exercise date will be 85% of the fair market value of the lesser of the Company's share price on either the first trading day of the offering period or on the exercise date.

During 2020, 2019 and 2018, shares issued under the ESPP were 89,477, 203,464 and 257,132, respectively. The Company recorded share-based compensation expense for shares issued from the ESPP of $0.9 million, $0.8 million and $0.7 million for the years ended December 31, 2020, 2019 and 2018, respectively. A total of 1,642,147 shares of common stock have been reserved for issuance under the ESPP, of which 536,443 shares were available for issuance as of December 31, 2020.

14. Defined Contribution Retirement Plan

The Company maintains a 401(k) defined contribution retirement plan covering substantially all of its employees. The plan provides for matching and discretionary contributions by the Company. Contributions were $1.7 million, $1.5 million and $1.3 million for the years ended December 31, 2020, 2019 and 2018, respectively.

15. Income Taxes

Loss before income taxes for the years ended December 31 consisted of the following (in thousands):

	2020	2019	2018
Domestic	$ (111,101)	$ (41,720)	$ (78,124)
Foreign	1,276	1,293	973
Loss before income taxes	$ (109,825)	$ (40,427)	$ (77,151)

Significant components of our provision for income taxes for the years ended December 31 are as follows (in thousands):

	2020	2019	2018
Current:			
Domestic	$ —	$ —	$ —
Foreign	253	269	249
Total provision for income taxes	$ 253	$ 269	$ 249

A reconciliation of the federal statutory income tax rate to the effective income tax rate for the years ended December 31 are as follows (in thousands):

	2020	2019	2018
Income tax provision at federal statutory rate	$ (23,063)	$ (8,490)	$ (16,202)
Tax on repatriated foreign earnings and other nondeductible items	348	403	195
Section 162(m) limitations	5,044	1,438	—
Change in tax credits	3,123	(3,738)	(2,148)
Change in valuation allowance	21,707	17,842	19,935
Changes in federal and state tax rates	586	(4,058)	—
Stock option exercise (windfall) shortfall	(7,683)	(1,763)	257
Adjustments to deferred stock compensation	3,060	—	—
State and Foreign tax, and other	(2,869)	(1,365)	(1,788)
Total provision for income taxes	$ 253	$ 269	$ 249

At December 31, 2020, for income tax return purposes the Company has gross federal and state NOL carryforwards totaling $553.7 million and tax credit carryforwards of $10.2 million. The gross federal NOL carryforwards generated during and after fiscal 2018 totaling $204.4 million are carried forward indefinitely, while all others, if not utilized, will expire beginning in 2025 through 2037. The research and development credit carryforwards generated prior to 2018 will expire beginning in 2028. The carryforwards may be subject to limitations under the Internal Revenue Code and applicable state tax law.

The Company does not expect to utilize any of its net operating loss and tax credit carryforwards in the near term. The Company may have already experienced one or more ownership changes. Depending on the timing of any future utilization of its carryforwards, the Company may be limited as to the amount that can be utilized each year as a result of such previous ownership changes. However, the Company does not believe such limitations will cause its carryforwards to expire unutilized.

Future changes in the Company’s stock ownership as well as other changes that may be outside the Company’s control could potentially result in further limitations on the Company’s ability to utilize its net operating loss and tax credit carryforwards.

The effect of temporary differences and carryforwards that give rise to deferred tax assets and liabilities for the years ended December 31 were as follows (in thousands):

	2020	2019
Deferred tax assets:		
Net operating loss carryforwards	$ 100,927	$ 73,310
Research and development tax credit carryforwards	9,513	12,636
Operating lease liability	6,962	7,653
Stock-based compensation	5,161	9,680
Foreign tax credit carryforwards	648	633
Accruals and other	8,138	8,219
Total deferred tax assets before allowance	131,349	112,131
Less: Valuation allowance	(114,275)	(106,438)
Deferred tax assets, net	17,074	5,693
Deferred tax liabilities:		
Debt discount (equity component)	12,045	—
Right of use asset	5,029	5,693
Deferred tax liability	17,074	5,693
Net deferred tax assets and liabilities	$ —	$ —

Certain of the amounts in the income tax rate table and deferred tax assets table above reflect reclassifications and corrections that were immaterial to the financial statements taken as a whole. The deferred tax assets and liabilities disclosure at December 31, 2019 has been adjusted to reflect the gross deferred tax right-of-use asset and related gross deferred lease liability recognized in accordance with ASC 842.

The Company has recorded a full valuation allowance related to its deferred tax assets due to the uncertainty of the ultimate realization of the future benefits from those assets. The table below summarizes changes in the deferred tax asset valuation allowance for the years ended December 31 (in thousands):

	2020	2019	2018
Balance at beginning of year	$ 106,438	$ 88,596	$ 68,661
Charged to costs and expenses	8,423	13,784	19,935
Impact of change in tax rate	(586)	4,058	—
Balance at end of year	$ 114,275	$ 106,438	$ 88,596

The total balance of unrecognized gross tax benefits for the years ended December 31, resulting from research and development tax credits claimed on the Company's annual tax return was as follows (in thousands):

	2020	2019	2018
Unrecognized tax benefits at beginning of year	$ 4,212	$ 2,830	$ 2,168
Additions based on current year tax positions	4,959	1,382	662
Unrecognized tax benefits at end of year	$ 9,171	$ 4,212	$ 2,830

The Company classifies applicable interest and penalties on amounts due to tax authorities as a component of the provision for income taxes. The amount of accrued interest and penalties recorded in 2020, 2019 or 2018 was not significant. The Company does not anticipate that the amount of its existing unrecognized tax benefits will significantly increase or decrease within the next 12 months. Due to the presence of net operating loss carryforwards in most jurisdictions, the Company's tax years remain open for examination by U.S. taxing authorities back to 2004.

16. Commitments and Contingencies

Contingencies

From time to time, the Company may become involved in litigation relating to claims arising from the ordinary course of business. Additionally, the Company operates in various states and local jurisdictions for which sales, occupation, or franchise taxes may be payable to certain taxing authorities. Management believes that there are no claims or actions pending against the Company currently, the ultimate disposition of which would have a material adverse effect on the Company's consolidated results of operations, financial condition or cash flows.

Purchase Commitments

At December 31, 2020 the Company has non-cancellable purchase obligations of $21.4 million related to binding commitments to purchase inventory and other research and development items.

17. Net Loss Per Share

Net loss per share is computed by dividing the net loss by the weighted average number of shares of common stock outstanding. Certain common stock participating securities, such as outstanding stock options, restricted stock units, and common stock warrants have not been included in the calculation of diluted net loss per share because to do so would be anti-dilutive. Accordingly, the numerator and the denominator used in computing both basic and diluted net loss per share for each period are the same.

The following common stock participating securities as of December 31 were excluded from the computation of diluted net loss per share for the periods presented because their effect would have been anti-dilutive (in thousands):

	2020	2019	2018
Options to purchase common stock	3,379	4,610	5,395
Restricted stock units	1,574	1,681	1,147
Common stock warrants	508	1,116	535

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

Our management has evaluated, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, the effectiveness of our disclosure controls and procedures as of December 31, 2020, pursuant to and as required by Rule 13a-15(b) under the Securities Exchange Act of 1934, or the Exchange Act. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of December 31, 2020, our Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2020, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Annual Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f) and Rule 15d-15(f). Our internal control over financial reporting is a process 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. Our internal control over financial reporting includes those policies and procedures that:

(i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;

(ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and

(iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

The effectiveness of any system of internal control over financial reporting, including ours, is subject to inherent limitations, including the exercise of judgment in designing, implementing, operating, and evaluating the controls and procedures, and the inability to eliminate misconduct completely. Accordingly, any system of internal control over financial reporting, including ours, no matter how well designed and operated, can only provide reasonable, not absolute, assurances. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we assessed the effectiveness of our internal control over financial reporting as of December 31, 2020. In making this assessment, our management used the framework in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, COSO. As a result of that assessment, our management has concluded that our internal control over financial reporting was effective as of December 31, 2020.

The effectiveness of our internal control over financial reporting as of December 31, 2020 has been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their report which appears in Item 8 of this Annual Report on Form 10-K.

Remediation of Material Weaknesses in Internal Control Over Financial Reporting

During the year ended December 31, 2019, management identified deficiencies in certain of its information technology general controls (including logical user access and program change management), journal entry review controls, revenue controls, and inventory existence controls that it believed to be material weaknesses.

To remediate the material weaknesses described above, management designed and implemented a number of new processes and controls in 2019 and, in 2020, management added additional controls and further enhanced and revised the design of these existing controls in a number of areas, including:

- Enhancement of our procedures executed by our Change Control Board process which was implemented in 2019 in order to validate that all relevant changes to key systems were subject to review prior to deployment;
- Improvement and refinement of controls implemented in 2019 related to our review of users with access to its key financial systems, specifically to validate and evidence that all users were subject to review and access was appropriate;
- Refining our review of user access controls which restrict system users from having access to create and post journal entries;
- Improvement of our policies and training of our employees around the execution of internal controls over inventory existence, primarily associated with the annual physical inventory counting process; and
- Enhancing the design of internal control procedures to ensure the completeness, occurrence and accuracy of customer order entry processes, and validation of price and quantity during customer billing and revenue recognition.

During the fourth quarter of 2020, management successfully completed the testing necessary to conclude that the controls were operating effectively and concluded that the material weaknesses have been remediated.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by Item 10 of Form 10-K is incorporated by reference to our Proxy Statement for the 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2020.

Item 11. Executive Compensation

The information required by Item 11 of Form 10-K is incorporated by reference to our Proxy Statement for the 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2020.

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

The information required by Item 12 of Form 10-K is incorporated by reference to our Proxy Statement for the 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2020.

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

The information required by Item 13 of Form 10-K is incorporated by reference to our Proxy Statement for the 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2020.

Item 14. Principal Accountant Fees and Services

The information required by Item 14 of Form 10-K is incorporated by reference to our Proxy Statement for the 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2020.

PART IV

Item 15. Exhibits, Financial Statement Schedules

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

(1) Financial Statements — The financial statements filed as part of this Annual Report on Form 10-K are listed on the Index to Consolidated Financial Statements in Item 8.

(2) Financial Statement Schedules — The financial statement schedules have been omitted because the information required to be set forth therein is not applicable or is shown in the financial statements or the notes thereto.

(3) Exhibits — The exhibits required by Item 601 of Regulation S-K are listed in paragraph (b) below.

(b) Exhibits

The exhibits listed on the Exhibit Index (following the Signatures section of this report) are filed herewith or are incorporated by reference to exhibits previously filed with the SEC.

Exhibit Number	Description	Incorporated by Reference			Filed Herewith
		Form	Filing Date	Number	
2.1*†	License and Asset Purchase Agreement, dated December 3, 2019, between the Registrant and Veracyte, Inc.	8-K	December 4, 2019	2.1	
3.1	Amended and Restated Certificate of Incorporation of the Registrant.	10-Q	August 8, 2013	3.1	
3.2	Amended and Restated Bylaws of the Registrant.	10-Q	August 8, 2013	3.2	
4.1	Specimen Common Stock Certificate of the Registrant.	S-1/A	June 13, 2013	4.1	
4.2	Form of Warrant to Purchase Common Stock dated as of October 12, 2018 is issued in connection with Amended and Restated Term Loan Agreement dated as of October 12, 2018 among the Registrant and certain of the Registrant's subsidiaries and CRG Partners III L.P., CRG Partners III-Parallel Fund "A" L.P., CRG Partners III Parallel Fund "B" (Cayman) L.P., CRG Partners III (Cayman) LEV AIV L.P. and CRG Partners III (Cayman) UNLEV AIV I L.P., and CRG Servicing LLC.	10-K	March 11, 2019	4.3	
4.3	Description of Capital Stock.	10-K	March 2, 2020	4.4	
4.4	Indenture, dated March 9, 2020, between NanoString Technologies, Inc. and U.S. Bank, National Association.	8-K	March 9, 2020	4.1	
4.5	Form of 2.625% Convertible Senior Note due 2025 (included in Exhibit 4.5)	8-K	March 9, 2020	4.2	
10.1	Form of Director and Executive Officer Indemnification Agreement.	S-1/A	June 13, 2013	10.1	
10.2+	2004 Stock Option Plan, as amended.	S-1	May 20, 2013	10.2	
10.3+	Form of Notice of Stock Option Grant and Stock Option Agreement under the 2004 Stock Option Plan, as amended.	S-1	May 20, 2013	10.3	
10.4+	Form of Notice of Stock Option Grant and Stock Option Agreement permitting early exercise under the 2004 Stock Option Plan, as amended.	S-1	May 20, 2013	10.4	
10.5+	2013 Equity Incentive Plan.	S-1/A	June 13, 2013	10.5	
10.6+	Form of Notice of Stock Option Grant and Stock Option Agreement under the 2013 Equity Incentive Plan.	S-1/A	June 13, 2013	10.6	
10.7+	Form of Notice of Restricted Stock Grant and Restricted Stock Agreement under the 2013 Equity Incentive Plan.	S-1/A	June 13, 2013	10.7	

Exhibit Number	Description	Incorporated by Reference			Filed Herewith
		Form	Filing Date	Exhibit	
10.8+	Form of Notice of Restricted Stock Unit Grant and Restricted Stock Unit Agreement under the 2013 Equity Incentive Plan.	S-1/A	June 13, 2013	10.8	
10.9+	Form of Notice of Performance Stock Unit Grant and Performance Stock Unit Agreement under the 2013 Equity Incentive Plan.	10-K	March 2, 2020	10.9	
10.10+	2013 Employee Stock Purchase Plan.	S-1/A	June 13, 2013	10.9	
10.11+	2018 Inducement Equity Incentive Plan and related form agreements.	8-K	January 16, 2018	10.1	
10.12+	Employment Agreement, dated May 24, 2010, between the Registrant and R. Bradley Gray.	S-1	May 20, 2013	10.8	
10.13+	Amendment to Employment Agreement, dated August 4, 2017, between the Registrant and R. Bradley Gray.	10-Q	August 9, 2017	10.1	
10.14+	Amendment to Employment Agreement dated February 28, 2020, between the Registrant and R. Bradley Gray.	10-K	March 2, 2020	10.14	
10.15+	Employment Agreement, dated March 31, 2012, between the Registrant and Joseph Beechem.	S-1	January 13, 2014	10.12	
10.16+	Amendment to Employment Agreement, dated December 27, 2012, between the Registrant and Joseph Beechem.	10-K	March 7, 2018	10.17	
10.17+	Amendment to Employment Agreement, dated November 7, 2017, between the Registrant and Joseph Beechem.	10-K	March 7, 2018	10.18	
10.18+	Amendment to Employment Agreement dated February 27, 2020, between the Registrant and Joseph Beechem.	10-K	March 2, 2020	10.21	
10.19+	Employment Agreement, dated October 17, 2017, between the Registrant and J. Chad Brown.	10-K	March 7, 2018	10.19	
10.20+	Amendment to Employment Agreement dated February 19, 2020, between the Registrant and J. Chad Brown.	10-K	March 2, 2020	10.23	
10.21+	Employment Agreement, dated January 16, 2018, between the Registrant and K. Thomas Bailey.	10-K	March 7, 2018	10.20	
10.22+	Amendment to Employment Agreement dated February 19, 2020, between the Registrant and K. Thomas Bailey.	10-K	March 2, 2020	10.25	

Exhibit Number	Description	Incorporated by Reference			Filed Herewith
		Form	Filing Date	Exhibit	
10.23	Lease between the Registrant and BMR-530 Fairview Avenue LLC, dated October 19, 2007, as amended through December 22, 2014 (including Amendment No. 1 through Amendment No. 7).	10-K	March 13, 2015	10.14	
10.24	Amendment No. 8 to Lease between the Registrant and BMR-530 Fairview Avenue LLC, dated February 27, 2015.	10-K	March 11, 2016	10.13	
10.25	Lease between the Registrant and BMR-500 Fairview Avenue LLC, dated December 22, 2014.	10-K	March 13, 2015	10.15	
10.26	Amendment No. 1 to Lease between the Registrant and BMR-500 Fairview Avenue LLC, dated June 27, 2016.	10-Q	August 4, 2016	10.1	
10.27	Office Lease Agreement between the Registrant and Blume Roy Building LLC, dated December 26, 2013, as amended through November 18, 2014.	10-K	March 13, 2015	10.16	
10.28	Amendment No. 2 to Office Lease Agreement between the Registrant and Blume Roy Building LLC, dated February 1, 2016.	10-Q	May 6, 2016	10.1	
10.29††	Exclusive License Agreement, dated February 4, 2004, between the Registrant and The Institute for Systems Biology.	S-1	May 20, 2013	10.19	
10.30††	Amendment No. 1 to Exclusive License Agreement, dated February 5, 2007, between the Registrant and The Institute for Systems Biology.	S-1	May 20, 2013	10.20	
10.31	Amendment No. 2 to Exclusive License Agreement, dated May 17, 2007, between the Registrant and The Institute for Systems Biology.	S-1	May 20, 2013	10.21	
10.32††	Collaboration Agreement, dated August 4, 2017, between the Registrant and Lam Research Corporation.	10-Q	November 8, 2017	10.1	
10.33†	Amendment #1 to Collaboration Agreement, effective May 28, 2019, between Registrant and Lam Research Corporation.	10-K	March 2, 2020	10.4	
21.1	List of subsidiaries of the Registrant.	10-K	March 7, 2018	21.1	
23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.				X
23.2	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.				X
24.1	Powers of Attorney (contained on signature page).				X
31.1	Certification of Principal Executive Officer Required Under Rules 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.				X
31.2	Certification of Principal Financial Officer Required Under Rules 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as amended.				X
32.1	Certification of Principal Executive Officer Required Under Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. §1350.				X
32.2	Certification of Principal Financial Officer Required Under Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, and 18 U.S.C. §1350.				X

Exhibit Number	Description	Incorporated by Reference Form	Filing Date	Number	Filed Herewith
101.INS	XBRL Instance Document.				X
101.SCH	XBRL Taxonomy Extension Schema Document.				X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.				X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.				X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document				X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.				X

+ Indicates a management contract or compensatory plan.
* Certain schedules and exhibits have been omitted pursuant to Item 601(a)(5) of Regulation S-K, but a copy will be furnished supplementally to the Securities and Exchange Commission upon request.
† Certain portions of this exhibit have been omitted because they are not material and would likely cause competitive harm to the registrant if disclosed.
†† Confidential treatment has been granted with respect to certain portions of this exhibit. Omitted portions have been filed separately with the Securities and Exchange Commission.

Item 16. Form 10-K Summary

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

Dated: March 1, 2021

NANOSTRING TECHNOLOGIES, INC.

By: /s/ R. Bradley Gray
R. Bradley Gray
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints R. Bradley Gray and K. Thomas Bailey, and each of them, with full power of substitution and resubstitution and full power to act without the other, as his or her true and lawful attorney-in-fact and agent to act in his or her name, place and stead and to execute in the name and on behalf of each person, individually and in each capacity stated below, and to file, any and all documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing, ratifying and confirming all that said attorneys-in-fact and agents or any of them or their and his or her substitute or substitutes, may lawfully do or cause to be done by virtue thereof.

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

Signature	Title	Date
/s/ R. Bradley Gray R. Bradley Gray	President, Chief Executive Officer and Director (Principal Executive Officer)	March 1, 2021
/s/ K. Thomas Bailey K. Thomas Bailey	Chief Financial Officer (Principal Accounting and Financial Officer)	March 1, 2021
/s/ William D. Young William D. Young	Chairman of the Board of Directors	March 1, 2021
/s/ Elisha W. Finney Elisha W. Finney	Director	March 1, 2021
/s/ Robert M. Hershberg Robert M. Hershberg	Director	March 1, 2021
/s/ Don R. Kania Don R. Kania	Director	March 1, 2021
/s/ Kirk D. Malloy Kirk D. Malloy	Director	March 1, 2021
/s/ Gregory Norden Gregory Norden	Director	March 1, 2021
/s/ Charles P. Waite Charles P. Waite	Director	March 1, 2021

Exhibit 23.1

Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

1. Form S-8 No. 333-189883 pertaining to the 2013 Equity Incentive Plan, 2013 Employee Stock Purchase Plan, and the 2004 Stock Option Plan, as amended
2. Form S-8 No. 333-194844, 333-202768, 333-210210, 333-216584, 333-222567, 333-230201, 333-236845 pertaining to the 2013 Equity Incentive Plan and 2013 Employee Stock Purchase Plan
3. Form S-8 No. 333-222568 pertaining to the 2018 Inducement Equity Incentive Plan
4. Form S-3 No. 333-220255 and 333-230361, as amended, pertaining to the registration of common stock, preferred stock, depositary shares, warrants, debt securities, and units

of our reports dated March 1, 2021, with respect to the consolidated financial statements of NanoString Technologies, Inc. and the effectiveness of internal control over financial reporting of NanoString Technologies, Inc. included in this Annual Report (Form 10-K) of NanoString Technologies, Inc. for the year ended December 31, 2020.

/s/ Ernst & Young LLP

Seattle, Washington
March 1, 2021

Exhibit 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-189883, 333-194844, 333-202768, 333-210210, 333-216584, 333-222567, 333-222568, 333-230201 and 333-236845) and Form S-3 (Nos. 333-220255 and 333-230361) of NanoString Technologies, Inc. of our report dated March 2, 2020 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

Seattle, Washington
March 1, 2021

Exhibit 31.1

CERTIFICATIONS

I, R. Bradley Gray, certify that:

1. I have reviewed this Annual Report on Form 10-K of NanoString Technologies, 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.

Date: March 1, 2021

/s/ R. Bradley Gray

R. Bradley Gray
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATIONS

I, K. Thomas Bailey, certify that:

1. I have reviewed this Annual Report on Form 10-K of NanoString Technologies, 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.

Date: March 1, 2021

/s/ K. Thomas Bailey

K. Thomas Bailey
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

NANOSTRING TECHNOLOGIES, INC.
CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of NanoString Technologies, Inc. (the "Company") on Form 10-K for the year ended December 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, R. Bradley Gray, President and Chief Executive Officer *(Principal Executive Officer)* of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ R. Bradley Gray
R. Bradley Gray
President and Chief Executive Officer
(Principal Executive Officer)

Date: March 1, 2021

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies the Report to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of NanoString Technologies, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Report), irrespective of any general incorporation language contained in such filing.

Exhibit 32.2

NANOSTRING TECHNOLOGIES, INC.
CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of NanoString Technologies, Inc. (the "Company") on Form 10-K for the year ended December 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, K. Thomas Bailey, Chief Financial Officer *(Principal Financial and Accounting Officer)* of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ K. Thomas Bailey

K. Thomas Bailey
Chief Financial Officer
(Principal Financial and Accounting Officer)

Date: March 1, 2021

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies the Report to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of NanoString Technologies, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Report), irrespective of any general incorporation language contained in such filing.