

**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, 2022

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
**(State or other jurisdiction of
incorporation or organization)**

20-0094687
**(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 ☐

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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. ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant’s executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

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 \$585.7 million. 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 46,791,027 shares of the Registrant’s common stock, \$0.0001 par value per share, outstanding on February 21, 2023.

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 2023 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, 2022.

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NANOSTRING TECHNOLOGIES, INC.
ANNUAL REPORT ON FORM 10-K
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2022

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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 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.
- 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 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 third-party manufacturers, service providers and single source suppliers for some of the components and materials used in our products, and the loss of any of these suppliers, or difficulties or delays in securing components or materials, 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 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.
- 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.
- If we are unable to protect our intellectual property effectively, our business would be harmed.
- 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.
- The price of our common stock may be volatile, and you could lose all or part of your investment.
- Macroeconomic conditions, inflationary pressures and the political climate could adversely affect our operating results and growth prospects.
- 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 revenue, operating expenses, sufficiency of cash on hand and operating and net loss;
- our expectations regarding the commercial trajectory of our spatial biology products, including our ability to maintain and grow sales of our GeoMx Digital Spatial Profiler, and to successfully commercialize our CosMx Spatial Molecular Imager and AtoMx Spatial Informatics Platform;
- our expectations regarding future sales and profitability of our nCounter platform;
- statements regarding our profitability and cash flow, including our ability to realize expected cost savings and related benefits from our reduction in workforce initiated in November 2022;
- our expectations that 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;
- our expectations regarding the competitive position, market size and growth potential for our business;
- our expectations regarding management of growth, including our ability to expand our customer base, develop new products, enter new markets and hire and retain key personnel;
- our expectations regarding the success, costs and timing of implementation of our business model, strategic plans and future product development plans;
- our ability to secure new and sustain existing strategic relationships, including with patent holders of our technologies, manufacturers and distributors of our products, and collaboration partners;
- our intellectual property position and the risk or results of litigation alleging that our products infringe upon the intellectual property rights of third parties;
- our ability to attract and retain key scientific or management personnel;
- 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; and
- 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.

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. Our Risk Factors are not guarantees that no such conditions exist as of the date of this report and should not be interpreted as an affirmative statement that such risks or conditions have not materialized, in whole or in part. 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 you are cautioned not to unduly rely upon these statements.

PART I

Item 1. Business

Overview

We develop, manufacture and market technologies that unlock scientifically valuable and clinically actionable information from minute amounts of biological material, primarily for life science researchers in the fields of genomics and proteomics. Our mission is to offer an ecosystem of innovative discovery and translational research solutions that enable our customers to map the universe of biology and conduct scientific exploration that may lead to new therapies to improve the human condition.

Our technologies include proprietary chemistries that enable the labeling and counting of single molecules. Our product platforms are used for scientific discovery and clinical research applications, often in connection with pharmaceutical product development and human clinical trials of potential new therapies. Our proprietary chemistries may reduce the number of steps required to conduct certain types of scientific experiments, enable the collection of multiple data points in a single experiment or allow for multiple experiments to be conducted at once. Our chemistries and instruments 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 larger amounts of data, and faster, more consistent scientific results.

Our ecosystem of solutions consists of (i) our spatial biology platforms, including our GeoMx Digital Spatial Profiler, or “GeoMx DSP” or “GeoMx”, our CosMx Spatial Molecular Imager, or “CosMx SMI” or “CosMx,” and our AtoMx Spatial Informatics Platform, or “AtoMx SIP” or “AtoMx”, a cloud-based, open source and fully integrated informatics solution for use with GeoMx DSP and CosMx SMI, and (ii) our nCounter Analysis System, our original product platform for multi-plex bulk gene expression analysis. Our GeoMx, CosMx and nCounter product platforms include instruments, related consumables, software and services, have the versatility to detect both RNA and protein expression and are able to generate reliable and reproducible data in a variety of biological sample types, including formalin fixed paraffin embedded, or FFPE, format.

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 deoxyribonucleic acid, or DNA, of a cell. For a gene to be “turned on,” or “expressed”, a cell must first transcribe a copy of a portion, or sequence, of its DNA code into molecules of messenger ribonucleic acid, or RNA. Then, the cell translates the expressed information contained in RNA into proteins that form the building blocks of organisms and biological processes.

The decoding of the human and other genomes, and the generation of large amounts of genetic information, or gene sequence data, have led researchers to seek to understand which genes among the decoded sequences may be expressed at any given time, and how networks of genes may work together to produce a biological condition or function. Researchers determine which genes are expressed, and in what magnitude, by measuring levels of selected RNA or proteins that may be present in a biological sample. The desire to map and interpret gene expression patterns has led to demand for technologies that can precisely and efficiently measure the expression level of hundreds of genes simultaneously.

Demand for these new or improved technologies has been driven by researchers in areas such as cancer, immunology, neurology and infectious disease. Researchers in these fields are increasingly attempting to determine which sequences of genes or mutations are important in disease-related biological pathways so 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 FFPE format, a process whereby biological samples are able to be preserved for long time periods but which can complicate subsequent analysis of genetic material. Researchers and clinicians may face similar challenges with analysis of biological samples in other therapeutic areas of interest.

Our nCounter platform, which was commercially launched in 2008, is used to conduct what is known as bulk gene expression analysis, whereby biological samples are first reduced, or broken down, and then gene expression, specifically quantities of selected RNA or proteins, are measured at their average levels throughout the totality of the sample. nCounter can be used to analyze the activity of up to 800 genes in a single experiment.

GeoMx DSP, which was commercially launched in 2019, is a pioneering product platform in the emerging field of spatial biology. While nCounter and other common gene expression analysis technologies use bulk analysis approaches,

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GeoMx DSP is used to analyze selected regions of an intact biological sample without the need to break down the sample, enabling researchers to see how gene expression might vary across those regions. After a researcher selects regions of interest, GeoMx arranges the biological information extracted from these regions to be subsequently quantified and analyzed, or “read out,” by a platform such as nCounter, whereby researchers can obtain information on up to 96 biological targets per selected region of interest, or by a next generation sequencer, or NGS, system, such as systems manufactured by Illumina, Inc., whereby researchers can obtain information on up to approximately 18,000 biological targets, or the RNA from every gene in the genome, per selected region of interest.

CosMx SMI, which was commercially launched in December 2022, is a new product platform in the field of spatial biology and complements our GeoMx DSP. While GeoMx offers researchers the ability to profile gene expression activity in a selected region of interest that may contain multiple cells or cell types, CosMx is designed to enable multiplexed spatial profiling of RNA and protein targets at a single and sub-cellular resolution level. While GeoMx allows for more rapid, higher throughput analysis of gene expression activity in selected regions of interest, CosMx is designed to allow researchers to “drill down” into a specific single cell or sub-cellular area in a region of interest to gather more information as desired or required. CosMx can be used to analyze up to 1,010 RNA targets, or up to 68 protein targets, at a single or sub-cellular level of resolution within morphologically intact tissue samples, and is expected after further product development to have the ability to analyze up to 6,000 RNA targets, or up to 120 protein targets.

AtoMx SIP, which was commercially launched in December 2022, is a new a cloud-based, open source spatial biology informatics platform, initially for use with CosMx, and eventually also with GeoMx. Researchers’ desire for ever larger amounts of data in their spatial biology experiments has led to significant “big data” management issues, including the ability to store, access and efficiently analyze experimental data at a reasonable cost. AtoMx is designed to take advantage of significant advances in cloud computing and facilitate the easy storage of large data sets and images generated by spatial biology experiments. AtoMx also enables researchers to perform image analysis and data visualization, as well as sharing of data and analysis with collaborators, using scalable and on-demand cloud computing. We believe AtoMx will enable researchers to easily and quickly analyze the substantial scientific data and tissue images generated by spatial biology experiments, while avoiding the large computing infrastructure and security costs associated with operating in-house data centers. AtoMx is currently available to researchers using CosMx, and is expected to be made available for GeoMx users by the end of 2023.

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. As of December 31, 2022, we had an installed base of approximately 350 GeoMx DSP systems, which our customers have used to publish approximately 190 peer-reviewed scientific papers. As of December 31, 2022, we had an installed base of approximately 1,120 nCounter systems, which our customers have used to publish more than 6,520 peer-reviewed scientific papers. We generated revenue of \$127.3 million, \$145.1 million and \$117.3 million in 2022, 2021 and 2020, respectively, while incurring net losses of \$159.5 million, \$115.3 million and \$110.1 million in 2022, 2021 and 2020, respectively.

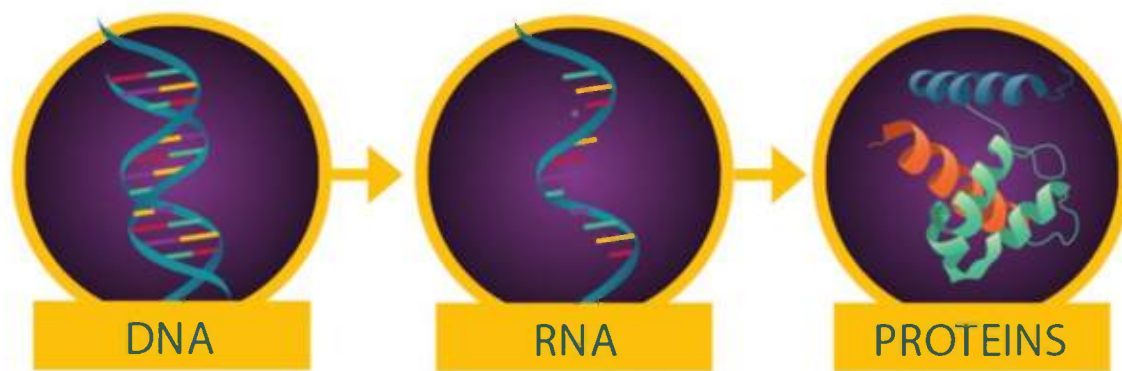
We are organized as, and operate in, one reportable segment. For additional information, see [Note 2](#) of the [Notes to Consolidated Financial Statements](#) of this report. For financial information regarding our business, see [Part II, Item 7 “Management’s Discussion and Analysis of Financial Condition 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”, “GeoMx,” “CosMx,” and “AtoMx”. Each other trademark, trade name or service mark appearing in this Annual Report on Form 10-K belongs to its holder.

Industry

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 code, or 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. 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;
- analyze the activity of genes within the existing structural integrity, or spatial orientation, of a biological sample;
- 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 that have been rapidly adopted by researchers 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, 2022, there were more than 23,000 Illumina 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. Many of 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. Many of these methods, known as "bulk" biology or "grind and bind," 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 easily, precisely and rapidly measure the activation state of hundreds to thousands 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 Strategy and Solutions

Our strategy is to offer a portfolio of technologies to genomics and proteomics researchers that are easy to use across multiple experimental scales or approaches, and that offer consistent, accurate and reproducible scientific results in a variety of biological sample types, including those that may be more challenging to use or analyze with alternative technology platforms. Our proprietary chemistries and product platforms offer a number of specific advantages, including:

- *Complementary solutions that enable spatial biology and bulk gene expression analysis at multiple scales.* Genomics and proteomics science has evolved to where experiments can involve studying gene expression from just a handful of data points from up to thousands of genes at a time, and may involve different types of analysis, such as bulk or spatial analysis or quantifying RNA or proteins. Our spatial biology platforms, which enable researchers to analyze intact biological samples, enable the analysis of multiple genes in a single experiment, at various scales. Our GeoMx DSP enables multiplex profiling of intact biological samples of up to approximately 18,000 RNA targets and up to approximately 100 protein targets in selected regions of scientific interest, at multicellular resolution. Our CosMx SMI offers the ability to analyze up to 1,000 RNA targets and up to 68 protein targets in specifically selected regions of a biological sample at single cell or sub-cellular resolution. nCounter, our bulk gene expression analysis solution, can profile the activity of up to 800 genes in a single experiment on multiple biological samples per day, with fewer experimental steps as compared to other multiplex bulk gene expression analysis technologies. We believe the breadth of the spatial biology and bulk gene expression research applications offered by our product platforms may provide our customers with a complete solution for their laboratories, as well as consistency of platform features, usability and performance.
- *Ease of use and automation.* Spatial biology and gene expression research requires the extraction and analysis of large amounts of data, often from studies comprising hundreds of biological samples, which can make manual or non-automated experimental approaches cumbersome, labor intensive or expensive. Our product platforms are designed to offer minimal sample preparation and automated workflow, which enables the simultaneous analysis of up to

thousands of genes and hundreds of proteins and to do so in large numbers of biological samples, which would be challenging using manual experimental approaches.

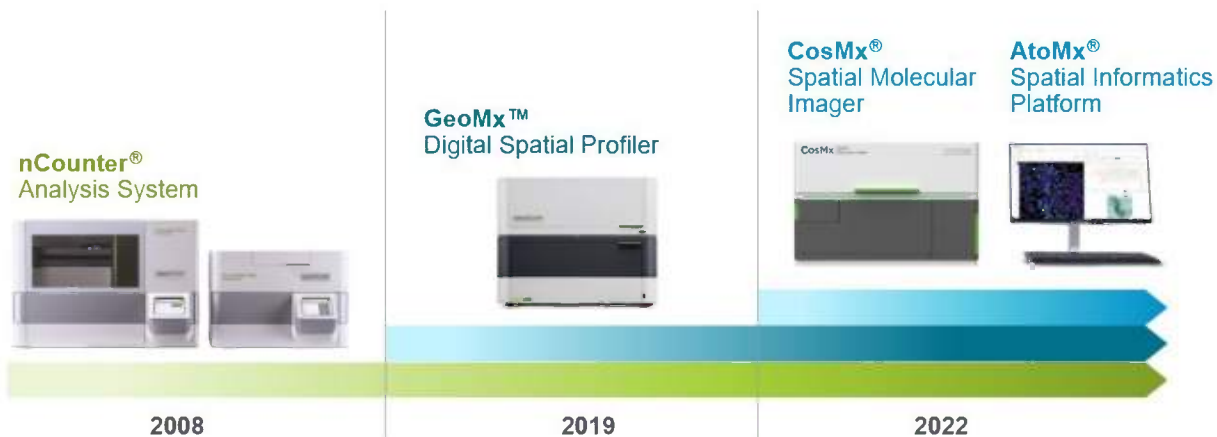
- *Flexible and Efficient Biological Sample Requirements.* Some biological samples, such as FFPE samples, can be challenging for scientists to work with, as the storage medium can make it difficult to extract gene expression information, or may partially degrade RNA or protein present in a sample. Biological samples may also be shared across multiple researchers, offering advantages to platforms that are able to work with smaller sample amounts. 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, which may be important in settings where samples are used across multiple researchers and experiments, such as pharmaceutical product development.
- *Robust and reproducible scientific results.* Some chemistries used in spatial biology and bulk gene expression analysis have error rates that may lead to inconsistent data across the same or similar biological samples. Our chemistries hybridize directly to target molecules in a biological sample, which allows target molecules to be counted with high accuracy. Our approaches generate digital information (1 molecule = 1 count) which provides consistent and accurate data with excellent reproducibility, even in biological samples that can be challenging to work with, offering confidence for scientists preparing scientific studies for publication or utilizing results to understand the outcomes of pharmaceutical clinical trials.

Our Products and Technology

Our products operate in the spatial biology and bulk gene expression markets, which exist within the larger life sciences technologies market.

Our ecosystem of spatial biology solutions, which include our GeoMx DSP, CosMx SMI and AtoMx SIP, are designed to seamlessly work together and address researcher needs across both the discovery and translational research markets.

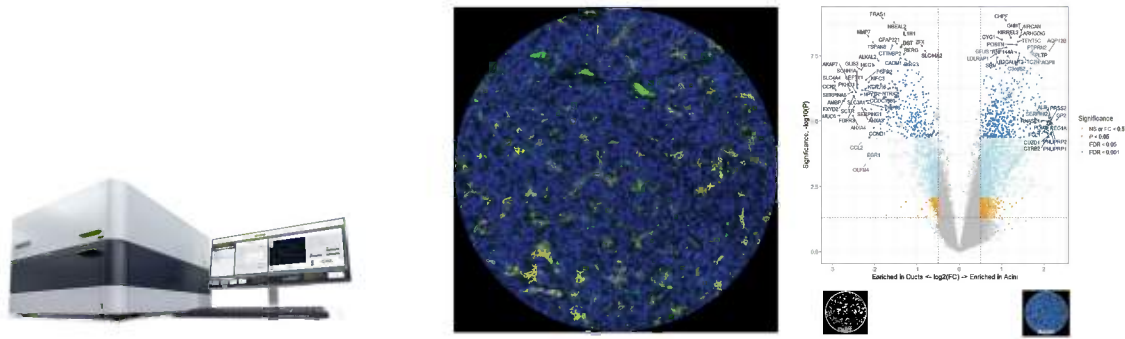
nCounter, our first commercially available product, was launched in 2008 and operates within the multi-plex bulk gene expression market and primarily serves the clinical, or translational, research market, often in connection with pharmaceutical product development and human clinical trials of potential new therapies. Our nCounter systems can be used for research or clinical diagnostic applications.



Spatial Biology

GeoMx DSP

Our GeoMx Digital Spatial Profiler, or “GeoMx DSP” or “GeoMx”, which was made commercially available in 2019, is a pioneering product in the emerging field of spatial biology. nCounter and many other existing gene expression analysis technologies typically assess the average gene expression throughout the totality of a biological sample using sample reduction, or “bulk” or “grind and bind” approaches. GeoMx is designed to allow researchers to explore and quantify how the expression of large numbers of genes vary in different selected regions of interest across the landscape of a heterogeneous biological sample, retaining spatial information and providing assays that target different regions in the same sample.



The left image is the GeoMx DSP instrument, the middle image is a sample of regions of interest, or ROIs, in a biological sample that have been selected by a researcher using GeoMx DSP for further analysis, and the right image is a “volcano plot” comparing the differential gene expression across regions within the biological 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 proteins or RNA 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 a small number of proteins or RNA 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 is designed to allow researchers to quantify a much larger number of RNA or proteins spatially within multiple regions of interest across the landscape of a heterogeneous section of a biological sample. Our GeoMx instrument images slide-mounted or freshly cut sample 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 offers a number of advantages as compared to traditional spatial technologies, including the ability to profile both RNA and protein, the ability to multiplex large numbers of different RNA or proteins 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 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 could analyze in selected regions. In 2021, our Whole Transcriptome Atlas, or WTA, became commercially available and further expanded the number of biological targets in a GeoMx region of interest that may be read out on NGS systems to approximately 18,000 RNAs. Linking GeoMx with NGS also significantly expands our total potential market opportunity. As of December 31, 2022, there were approximately 23,000 Illumina NGS systems installed globally.

GeoMx DSP Instrument and Software

Our GeoMx DSP instrument uses specialized optics to image slide-mounted 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 is capable of supporting applications including gene expression and protein expression. GeoMx is fully automated and easy to use, requiring only 30 minutes of hands-on time per run and offering the ability to process up to 10 slides per day and is therefore ideal for a range of applications requiring efficient, high-precision, simultaneous quantitation of large numbers of target molecules across a set of biological samples.

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The GeoMx 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 data center uniquely combines system control to visualize whole sample 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 have developed a GeoMx 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

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

Our significant GeoMx consumable products 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 biological 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 human neural cells. 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 was the first commercial GeoMx 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 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-embedded biological samples, 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 images generated on GeoMx with the massively parallel output of Illumina sequencers.

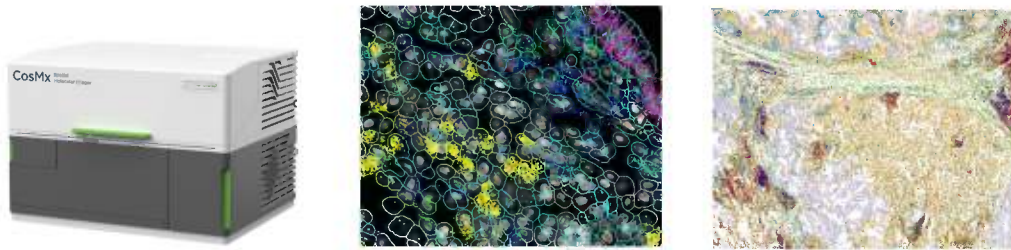
Universal:

- *Protein Assays.* 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 fresh frozen and FFPE-embedded biological samples. Our GeoMx Protein Assays for NGS readout expanded the protein capabilities of GeoMx from tens to now hundreds of validated proteins to be analyzed from a single sample section with spatial resolution.
- *Whole Transcriptome Atlas (WTA).* The WTA, a GeoMx consumable product that became commercially available for use in human and mouse biological samples during 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. The WTA assay provides robust and sensitive performance both fresh frozen and FFPE-embedded biological samples, allowing scientists to work with a broad spectrum of samples in their research. WTA utilizes the same workflow and chemistry as our CTA.

CosMx SMI

Our CosMx Spatial Molecular Imager, or “CosMx SMI” or “CosMx”, which was made commercially available in December 2022, is designed to combine the spatial profiling of a large number of biological targets with high-resolution imaging, which will allow researchers to both analytically measure as well as visualize the activity of selected RNA or proteins at the single cell or sub-cellular level. CosMx SMI enables the analysis of up to 1,000 RNA targets or up to 68 protein targets directly from single cells within morphologically intact biological samples and is expected, after further development, to enable the analysis of up to 6,000 RNA targets or up to 120 protein targets. CosMx SMI offers researchers the opportunity to “drill down” further into regions of interest in biological samples, as a complement to our GeoMx DSP which typically offers gene expression profiling across regions containing multiple cells.

CosMx SMI incorporates a proprietary version of our chemistry that was originally developed as part of our concluded collaboration with Lam Research, whereby 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 CosMx SMI in December 2020.



The left image is the CosMx SMI instrument, the middle image is a single-cell expression map of selected genes and the right image is a spatially-resolved cell type map in a biological sample.

Biology takes place on several spatial scales including multi-cellular, single cell and sub-cellular levels. 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 have designed CosMx 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 CosMx SMI platforms are designed to be synergistic, creating a spatial biology portfolio that spans the continuum from targeted to whole transcriptome analysis, and from multicellular resolution down to single cell and sub cellular applications.

We believe CosMx SMI offers a number of advantages as compared to competing imager platforms, including the ability to profile a high number of selected targets or “high plex”, a larger sample scan area of up to 300 square millimeters, a tunable throughput that allows researchers to process between 2 to 20 samples per week depending on the number of targets selected for study, and the ability to store, manage, analyze and share data from the large data sets generated in a cloud-based informatics environment.

CosMx SMI Instrument and Software

Our CosMx SMI instrument uses specialized optics to perform high-plex analysis at cellular and subcellular resolution of slide-mounted FFPE and fresh frozen, or FF, tissue samples which have been prepared using CosMx Assay Consumables. CosMx SMI allows researchers to select specific fields of view, or FOVs, up to 300 square millimeters and then uses an integrated readout to enable visualization of up to 1,000 RNA, or up to 68 protein targets. Like nCounter and GeoMx DSP, CosMx SMI is capable of supporting applications including gene expression and protein expression. The CosMx SMI uses standard histology workflows and features semi-automated options to reduce hands-on time per run. CosMx SMI workflows and integrated readout enable researchers to process up to 2 slides per week for 1000-plex RNA assays covering 100 mm² tissue area or up to 7 slides per week for 68-plex Protein assays covering 100 mm² tissue area.

CosMx SMI uses multi-modal cell segmentation to provide accurate cell boundary detection. This cell segmentation process uses cell membrane and protein morphology images, a machine-learning augmented cell segmentation algorithm and transcript-based segmentation refinement to achieve precise single-cell segmentation results from intact tissue. AtoMx SIP is the supported software platform for CosMx SMI. CosMx SMI is designed to seamlessly export data to AtoMx SIP to enable researchers to visualize, analyze and perform enhanced bioinformatic workflows on their collected results.

CosMx SMI Consumables

Launched in December 2022, our current portfolio of CosMx SMI consumables focuses on RNA and protein profiling for immunology, immuno-oncology and neurobiology applications. CosMx consumable products are currently designed as standardized panel products that represent important content for certain disease areas with an option for researchers to add customized content to that panel depending on the area of interest or desired number of targets for analysis. Our CosMx assays generate high-quality results from challenging sample types, including FFPE and crude cell lysates.

Our significant CosMx consumable products include:

For RNA:



Immuno-Oncology Panel. An immuno-oncology-focused panel that comprises 100 RNA targets for analyzing the tumor and tumor microenvironment compartments in human biological samples. The standard, or core, panel offering is comprised of 100 targets, and researchers have the option of swapping up to 10 targets for custom RNA targets.



Neurobiology Panels. A neurobiology-focused menu that comprises up to 1,000 targets to profile mouse neural cells. This panel enables research into topics such as Alzheimer's disease or Parkinson's disease.



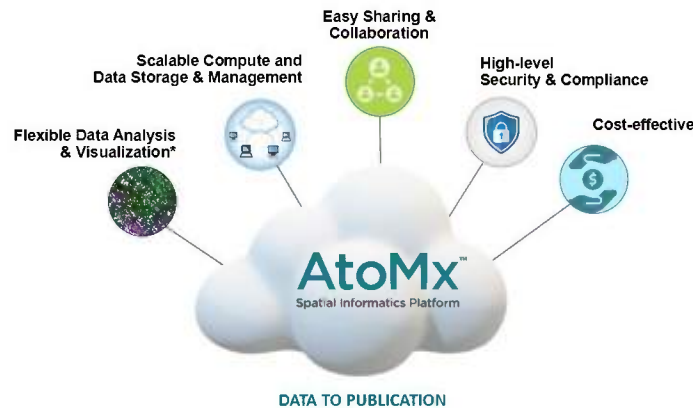
Universal Panels. A universal panel that comprises up to 1,000 RNA targets human biological samples. The Human Universal RNA Panel enables researchers to explore pathways at the single cell and subcellular level and provides robust and sensitive performance for real-world FFPE-embedded biological samples, allowing scientists to work with a broad spectrum of samples in their research.

For Protein:



Immuno-Oncology Panel. An immuno-oncology-focused panel that comprises 64 protein targets for analyzing the tumor and tumor microenvironment compartments in human biological samples. The standard panel offering is comprised of 64 targets and has demonstrated robust and sensitive performance in real-world FFPE-embedded biological samples. Content releases in 2023 are expected to cover neurobiology content for mouse biological samples and are expected to include an option to customize pre-validated protein panel content with up to 8 custom labeled antibodies through NanoString's Protein Barcoding Service.

AtoMx SIP



Our AtoMx Spatial Informatics Platform, or “AtoMx SIP” or “AtoMx”, is a cloud-based, open source and fully integrated informatics solution for spatial biology. AtoMx, which was commercially launched in December 2022, is initially for use with CosMx, and is expected to be made available for use with GeoMx by the end of 2023.

AtoMx enables users to perform image analysis and data visualization and utilize scalable and on-demand cloud computing and data storage, allowing data sharing to enable global research collaboration. AtoMx provides the secure, scalable storage and analysis that spatial biology researchers need to drive their workflow from study design to peer-reviewed publication. AtoMx stores customer data in a flexible “data lakehouse” structure which can be examined using artificial intelligence and machine learning approaches. A cloud-based platform reduces or eliminates the need for laboratories to invest

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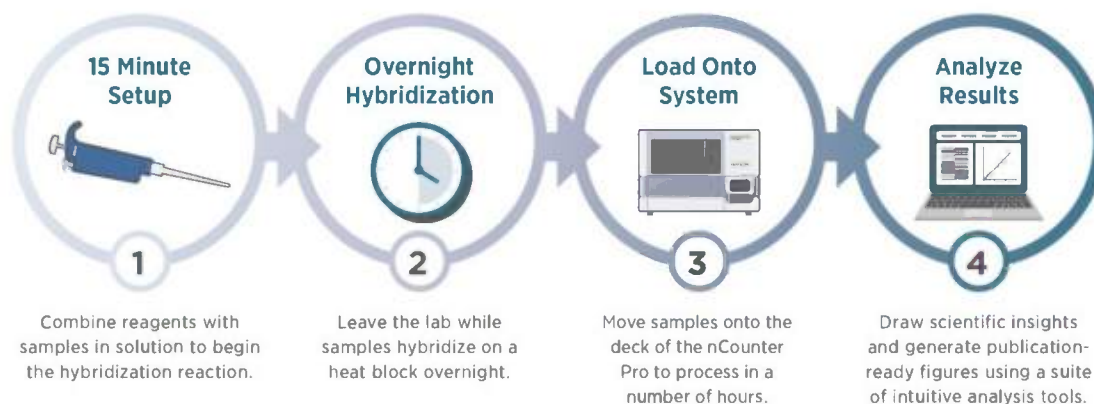
in their own costly informatics infrastructure and reduces spatial biology analysis compute times from days to hours. Users have the flexibility to apply a predefined data analysis pipeline, to customize these pipelines using their own code, and to access open-source tools developed by the bio-informatics community.

Technology Access Program (TAP)

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

nCounter

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 biological samples using proprietary reagents which can only be obtained from us. Our research and clinical laboratory customers purchase instruments from us and then purchase our reagents and related consumables for the specific experiment they wish to conduct and for tests that they intend to run, respectively.



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, 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 Instruments



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

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We currently offer three versions of our nCounter Analysis System, each targeted at a distinct user segment. Our nCounter Pro is a higher throughput instrument with features appealing to larger core laboratories serving multiple researchers. Our nCounter SPRINT Profiler is designed to appeal to individual researchers running relatively smaller experiments. Our nCounter FLEX, which is targeted toward clinical laboratories, has been 510(k) cleared by the U.S. Food and Drug Administration, or 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 Pro and FLEX systems comprise a Prep Station and a Digital Analyzer. The Prep Station is the automated liquid handling component that processes 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 Pro and FLEX throughput 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.



	Pro	510(k)-Cleared FLEX	SPRINT
Target customer	Core research labs	Clinical labs	Individual researchers
Number of workflow steps	3	3	3
Throughput (samples per day) ⁽¹⁾	48 - 96	48 - 96	24
Prep station and digital analyzer	Yes	Yes	No
Expandable with additional prep station ⁽¹⁾	Yes	Yes	No
Diagnostic Menu	No	Yes	No
Hands-on time (minutes)	15	15	10
U.S. list price	\$249,000	\$300,000	\$149,000

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

nCounter Consumables

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. Below are examples of our panels, which can be used throughout the research, drug development, manufacturing and clinical biomarker discovery for oncology, immunology, infectious disease and neuroscience.

Oncology Research Applications		
	Panel Name	Panel Description
	<i>PanCancer IO 360</i> 770 gene expression panel	Holistic view of tumor, microenvironment and immune response. Contains predefined IO signatures and automated data analysis report.
	<i>Breast Cancer 360</i> 776 gene expression panel	Contains 23 key breast cancer pathways and processes, 10 research focused signatures and 30 novel signatures measuring tumor and immune activities and automated data analysis report.
	<i>Tumor Signaling 360</i> 780 gene expression panel	Holistic view of dysfunctional signaling pathways for tumor, microenvironment and immune response.
	<i>CAR-T Characterization</i> 780 gene expression panel	Standardized panel for development collaborations and manufacturing optimization.
	<i>TCR Diversity</i>	Determine usage of TCR variable regions and shifts in TCR diversity in response to cancer, infectious disease, autoimmunity, or transplanted organ.
	<i>Metabolic Pathways</i> 768 gene expression pane	Addresses mechanisms behind metabolic adaptation, metabolic switching and metabolic alterations as a result of disease.
	<i>Canine IO</i> 800 gene expression pane	For measuring the tumor and immune response to immuno-oncology treatments in dogs.
	<i>PanCancer Immune Profiling</i> 770 gene expression pane	Focused panel measuring the many features of immune response.
	<i>ADC Development</i> 770 gene expression pane	Enables researchers to answer complex questions critical for the of Antibody Drug Conjugates throughout discover, preclinical and clinical development.

Immunology and Infectious Disease Research Applications		
	Panel Name	Panel Description
	<i>Host Response Panel</i> 785 gene expression panel	Study disease progression, severity, host immune response and convalescence.
	<i>Viral Panel Plus</i> Spike-In to gene expression panels	Pre-built Panel Plus spike-in with genes covering all coronavirus for viral detection and other probes for common pathogens.
	<i>Immunology Panel</i> 594 general immunology genes	All-purpose panel for broad immunology research studies.
	<i>Fibrosis Panel</i> 770 gene expression panel	In-depth profiling for diseases that lead to fibrotic tissue and organ damage.
	<i>Human Organ Transplant Panel</i> 770 gene expression panel	Focused content for studying organ transplant host response and organ rejection.
	<i>Stem Cell Characterization Panel</i> 770 gene expression panel	Deeply characterize and stem cell biology and optimize stem cell development.

Neuroscience Research Applications		
	Panel Name	Panel Description
	<i>Alzheimer's Disease Panel</i> 770 gene expression panel	Monitor progression of Alzheimer's Disease and functional screening of potential therapeutics.
	<i>Glial Panel</i> 770 gene expression panel	Comprehensive profiling for neuronal and peripheral immune cell types.
	<i>Neuroinflammation Panel</i> 770 gene expression panel	In-depth profiling of neuroimmune interactions.
	<i>Neuropathology Panel</i> 770 gene expression panel	Comprehensive assessment of neurodegenerative pathways and processes.

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 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.

nCounter Software and Data Analysis

nCounter instrument platforms also include our nSolver Analysis Software and nCounter Advance Analysis add-on to nSolver, providing an integrated 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 ROSALIND™ Bioinformatics, a provider of cloud-based genomic analysis tools, for the development of new analysis tools for data generated on our nCounter Analysis System. ROSALIND offers a cloud-based platform that connects researchers to differential expression and pathway exploration in a real-time collaborative environment.

Functionality has been built into ROSALIND's cloud-based analysis suite that facilitates nCounter 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. In 2021, ROSALIND created a unique data analysis solution specific to the nCounter TCR Diversity Panel, which is routinely utilized to profile T-cell receptor variable and constant regions and other T-cell markers, resulting in a TCR Diversity Score. We are working with ROSALIND to make certain features of nSolver available within ROSALIND, and we are evaluating opportunities for joint development of new analysis solutions.

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., or "Veracyte". For additional information regarding our agreement with Veracyte, see "— License Agreements — Veracyte, Inc." below.

License Agreements

We have relied, and expect to continue to rely, on strategic collaborations and licensing agreements with third parties. For example, our molecular barcoding chemistry technology is in-licensed from the Institute for Systems Biology. In addition, we have licensed technology related to our 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 GeoMx DSP, CosMx SMI and 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.

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.

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.

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, 2022, we have paid aggregate royalties of \$8.5 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.

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, 2022, we owned or exclusively licensed approximately 38 issued U.S. patents and approximately 21 pending U.S. patent applications, including provisional and non-provisional filings and 5 pre-nationalization PCT applications. We also owned or licensed approximately 312 pending and granted counterpart applications worldwide, including 123 country-specific validations of 17 European patents. The issued U.S. patents that we own or exclusively license are expected to expire between September 3, 2024 and November 21, 2037. 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 GeoMx DSP, CosMx SMI, or nCounter Analysis System biology, chemistry, methods, analytics and hardware;
- specific applications for our GeoMx DSP, CosMx SMI, or nCounter Analysis System 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, 2022, we had 193 employees in research and development.

Sales and Marketing

We began selling nCounter to researchers in 2008, GeoMx DSP in 2019, and CosMx SMI and AtoMx SIP in 2022. 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 44 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.

Our sales and marketing efforts 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 2022, we reorganized our commercial channel to realign our expanded commercial team, centralize primary points of contact with our customers, and to add roles relating to customer support and experience, given our expanding portfolio of products. We believe these changes and investments help to drive the growth of our installed instrument base, and the utilization of 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 at our facilities in the greater Seattle, Washington area. We develop and deliver our cloud-based software applications primarily from facilities and staff located in the greater Seattle area, and we also use certain third party cloud computing service providers for data storage and the hosting of software applications we offer to customers.

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. D&K Engineering, Inc. of San Diego, California is our sole source supplier of our CosMx SMI instrument.

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 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, 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.

Software

We develop, deliver and manage our cloud-based AtoMx SIP primarily from facilities located in the greater Seattle, Washington area. In the past several years, we have expanded our information technology engineering, data management and monitoring capabilities to support the launch of AtoMx, including establishing a Network Operations Center in our greater Seattle facilities.

We currently rely on certain outside software development firms to support the development and updating of AtoMx, as well as certain third party cloud computing providers for data storage and hosting. While we currently host AtoMx with a single third party cloud computing vendor, AtoMx is designed to function across multiple third party cloud computing platforms, which we believe reduces the risk of exposure to a single vendor and facilitates the management of cloud computing costs. We continuously assess and qualify additional outside software development firms and third party cloud computing providers, however if we elected or were required to work with additional vendors, we cannot predict how expensive, time consuming or successful these efforts will be. If we were to lose one of our key vendors, it may take significant time and effort to qualify alternative vendors.

Competition

In the life sciences research market, we compete with companies such as Agilent Technologies, Akoya Biosciences, Bio-Rad, Bio-Techne, Standard BioTools (previously Fluidigm), Illumina, Qiagen, Thermo Fisher Scientific, Vizgen 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, CosMx or AtoMx.

We believe that we have multiple competitive advantages, including the automated nature of our systems with simple, rapid and efficient workflow that requires limited human intervention or labor; the multiplexing capability of our technologies to analyze more target molecules in a single experiment; the ability to analyze both 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, 2022, we had 703 employees, of which 193 work in manufacturing, 234 in sales, marketing and business development, 193 in research and development and 83 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, 2022, of our 703 employees, 603 were employed in the United States and 100 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 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.

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. In 2021, we added two new members with diverse backgrounds to our board of directors. Our board of directors includes four women and five men. Our senior leadership team includes leaders with diverse skills, experiences, backgrounds 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 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 of Products

RUO Products

United States

Research Use Only, or RUO, products are not medical devices and are therefore not subject to the quality system regulation, or QSR, and other medical device requirements enforced by the FDA. FDA regulations state that an RUO product must be labeled "For Research Use Only. Not for Use in Diagnostic Procedures." Manufacturers of RUO products may not represent an RUO product as safe or effective for any clinical purpose and may not provide technical support to clinical

laboratories on using an RUO product for clinical laboratory testing. In November 2013, the FDA issued a final guidance on products labeled RUO, which, among other things, reaffirmed FDA's position that a company may not make any clinical or diagnostic claims about an RUO product, and also 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 FDA concludes that the totality of circumstances surrounding the distribution of the product indicates that the manufacturer's objective intent is that the product be used for diagnostic purposes. These circumstances may include, among other things, written or verbal marketing claims regarding a product's performance in clinical diagnostic applications and a manufacturer's provision of technical support for such activities.

In November 2013, the FDA issued a final guidance on products labeled RUO. The guidance reaffirmed FDA's position that a company may not make any clinical or diagnostic claims about an RUO-labeled product and also stated that merely including a labeling statement that the product is for research purposes only and is not for use in diagnostic procedures will not necessarily render the device exempt from the FDA's clearance, approval, or other regulatory requirements if FDA concludes that the totality of circumstances surrounding the distribution of the product indicates that the manufacturer's objective intent is that the product be used for diagnostic purposes. These circumstances may include, among other things, written or verbal marketing claims regarding a product's performance in clinical diagnostic applications and a manufacturer's provision of technical support for such activities.

Our GeoMx DSP, CosMx SMI, nCounter Pro Analysis System and nCounter SPRINT Profiler are currently labeled and sold for research use only, or RUO, and we sell them to academic institutions, life sciences and clinical research laboratories, and biopharmaceutical and biotechnology companies for non-diagnostic purposes. These products are not intended or promoted for use in the diagnosis of disease or other conditions, and they are labeled "For research use only. Not for use in diagnostic procedures," in accordance with FDA regulations for RUO products. Accordingly, they are not medical devices subject to FDA regulation because they do not have the requisite intended use, and they therefore do not need to comply with pre- and post-market controls or other FDA requirements. Violation of any FDA regulatory requirements could result in regulatory or enforcement actions, including the issuance of an untitled letter, a warning letter, or fines, among other adverse actions.

If the FDA were to determine, based on the totality of circumstances, that our products labeled and marketed as RUO are intended for diagnostic purposes, they would be subject to FDA regulation as medical devices, which could include obtaining premarket authorization (510(k) clearance, *de novo* classification, or pre-market approval, or PMA, prior to commercialization. Further, sales of devices for diagnostic purposes may subject us to additional healthcare regulation. We continue to monitor the changing legal and regulatory landscape to ensure our compliance with any applicable laws and regulations.

In some cases, our customers may use our RUO products in their own laboratory-developed tests, or LDTs, or in other FDA-regulated products for clinical diagnostic use. The FDA has historically exercised discretion (i.e., has not enforced) the medical device regulations against clinical laboratories with respect to most LDTs. The FDA has indicated that it may seek to increase its regulation of LDTs. Any future rulemaking, guidance, or other oversight of LDTs and clinical laboratories that develop and perform them by FDA, if and when finalized, may impact the sales of our products and how customers use our products, and may require us to change our business model in order to maintain compliance with these laws.

If we wish to label and market our RUO products for use in performing clinical diagnostics, they would be subject to FDA regulation as *in vitro* diagnostic, or IVD, medical devices, and subject to applicable requirements for IVD devices. Unless an exemption applies, we would be required to obtain either prior 510(k) clearance, *de novo* classification, or PMA from the FDA before commercializing the product. International sales of medical devices are subject to foreign government regulations, which vary substantially from country to country.

International

Our RUO products are not subject to regulation in the European Union, or EU, under the *In Vitro* Diagnostics Directive (98/79/EC), or IVDD, or the IVDR. Outside of the EU, regulations vary but generally our RUO products do not require regulatory approval. If we wish to label and market our RUO products for use in performing clinical diagnostics outside the US, they could be subject to regulation as IVD medical devices. In the EU, they would be subject to compliance with the *in vitro* Diagnostic Medical Devices Regulation (EU) 2017/746, or IVDR. Outside of the EU, regulatory approval needs to be sought on a country-by-country basis in order to market medical devices. Regulations in each country may vary substantially which can affect timelines of introduction.

Medical Devices

United States

In the United States, medical devices, including *in vitro* diagnostics, are subject to extensive regulation by the 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.

The FDC Act defines a medical device as 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. IVDs are a type of medical device, and include tests that can be used in the screening or diagnosis and/or detection of diseases or conditions, including, without limitation, the presence of certain chemicals, genetic markers, infections, or other biomarkers.

The FDC Act generally applies a risk-based framework to medical devices, including IVDs. Class I (low risk) devices are those for which general controls – which include registration, listing, medical device reporting, corrections and removals, and compliance with applicable provisions of QSR – are sufficient to provide reasonable assurance of safety and effectiveness. Class II (moderate risk) require special controls (e.g., analytical testing, performance standards, labeling) in addition to general controls, to provide reasonable assurance of safety and effectiveness. Class III (high risk) devices are those for which general and special controls are not sufficient to provide reasonable assurance of safety and effectiveness, and for which prior FDA approval of an application for PMA. The PMA approval pathway requires a demonstration, through data from clinical trials and other information about the device (e.g., design history, manufacturing and labeling), that the device is safe and effective for its intended use. FDA will typically inspect the device manufacturer's facilities for compliance with the QSR regulation prior to approval. The PMA approval pathway is costly, lengthy and uncertain.

510(k) Pathway

Devices that are not subject to PMA requirements must, unless exempt, obtain either clearance of a 510(k) premarket notification submission, or approval of a request for “*de novo* classification”. Most Class II devices must obtain 510(k) clearance, while most Class I devices are 510(k)-exempt. 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 to a legally marketed predicate device. The FDA's 510(k) clearance pathway usually takes from three to 12 months. Certain post-market device or labeling modifications require additional FDA review and premarket authorization (510(k) clearance, *de novo* classification, or PMA approval) before the modified device can be commercially distributed. If the FDA disagrees with a manufacturer's decision not to obtain authorization of a modification, the agency may require the manufacturer to cease commercial distribution of the device until the applicable submission type has been submitted to and authorized by the agency.

Low and moderate risk tests that are subject to 510(k) premarket notification but for which no predicate can be identified are automatically classified as Class III. Through the *de novo* classification pathway, FDA can reclassify such devices as Class I or Class II, either on its own initiative or in response to a request for *de novo* classification. When granting a *de novo* classification request for a Class II device, the FDA will establish special controls, which often include labeling restrictions and data requirements. Subsequent applicants can rely upon the *de novo* product as a predicate for a 510(k) clearance and are subject to the special controls. The *de novo* route has been used for many *in vitro* diagnostic products.

Post-market Requirements

After a device is placed on the market, numerous regulatory requirements apply. These include: the quality manufacturing requirements set forth in the QSR, 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 includes the requirement that manufacturers report to the FDA corrective actions or product removals initiated to reduce a risk to health posed by the device or to remedy a violation of the FDC Act that may present a risk to health. Additionally, in order to comply with the FDC Act general prohibitions against adulteration and misbranding, manufacturers must properly label their devices and must not promote them for purposes inconsistent with their labeled intended use.

Applicability of Requirements

Our nCounter FLEX, which is targeted toward clinical laboratories, has been 510(k) cleared by the FDA. The nCounter FLEX was designed and is manufactured under ISO 13485:2016 and the QSR, 21 CFR Part 820, the current quality standards for *in vitro* diagnostic platforms and medical devices. nCounter FLEX is enabled to run the Prosigna breast cancer assay, as well as other proprietary LDTs that may be developed. In December 2019, we entered into a License and Purchase Agreement, or 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 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. Pursuant to the LAPA, we provided Veracyte a worldwide exclusive license to market and sell clinical diagnostic tests developed for our nCounter FLEX for *in vitro* diagnostic use and for the development and commercialization of *in vitro* diagnostic tests, including *in vitro* diagnostic devices or LDTs, for use on the nCounter FLEX.

Pursuant to the SSAs, we agreed to supply to Veracyte nCounter FLEX, and to manufacture and supply Prosigna kits, LymphMark kits and any additional clinical diagnostic tests that may be developed in the future for nCounter, for a period of at least four years subsequent to the transaction date. While we have retained limited responsibility for regulatory compliance with respect to the current version of nCounter FLEX in certain jurisdictions, under these agreements, Veracyte is responsible for worldwide regulatory compliance for Prosigna, LymphMark, and any additional diagnostic tests that may be developed in the future for the nCounter platform, and has responsibility for worldwide regulatory compliance for all future generations of the nCounter platform for use with clinical diagnostic applications.

The FDA defines a manufacturer broadly to include any person who designs, manufactures, fabricates, assembles, or processes a finished device. More than one entity can be subject to FDA regulation as a manufacturer of a medical device, with each being responsible to comply with the requirements applicable to its activities. For example, a specification developer is an entity that develops the specifications for but does not manufacture a device. Conversely, a contract manufacturer manufactures a device at its facility according to another entity's specifications. We are the contract manufacturer for the nCounter FLEX while Veracyte is the specification developer for and complaint handling establishment for Prosigna, LymphMark and any other diagnostic tests that may be developed for nCounter FLEX. Both specification developers and contract manufacturers are responsible to ensure that a device complies with applicable requirements. This includes compliance with the provisions of the QSR regulation that pertains to the entity's activities. To avoid duplication, specification developers and contract manufacturers can assign primary responsibility for an activity to one of the parties (for example, complaint handling). Certain requirements, such as registration and listing, must be done by each party individually.

The FDA enforces its 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, non-public communication to a public 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."

International

International sales of medical devices are subject to foreign government regulations, which vary substantially from country to country. Our nCounter FLEX has been CE-marked in the EU, indicating that the device conforms to the essential requirements of the applicable directives and, accordingly, can be marketed through the EU and European Economic Area member states. Outside of the EU, regulatory approval needs to be sought on a country-by-country basis in order to market medical devices. Under the SSAs with Veracyte, Veracyte is responsible for worldwide regulatory compliance for Prosigna, LymphMark, and any additional diagnostic tests that may be developed in the future for the nCounter platform and has responsibility for worldwide regulatory compliance for all future generations of the nCounter platform for use with clinical diagnostic applications.

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 sections of this report captioned “Business” and “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. Our risk factors are not guarantees that no such conditions exist as of the date of this report and should not be interpreted as an affirmative statement that such risks or conditions have not materialized, in whole or in part. 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 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 \$159.5 million, \$115.3 million and \$110.1 million for the years ended December 31, 2022, 2021 and 2020, respectively. As of December 31, 2022, we had an accumulated deficit of \$809.3 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 may 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, market development and the size of our addressable markets, competition and market share captured by our products, future product development, and the profit margins achieved on the sale of our products. In addition, inflationary pressure, rising interest rates, potential economic recession and other deteriorating factors in the macroeconomic environment could adversely impact our financial results. Our operating costs have increased, and may continue to increase, due to the recent rise in inflation. We may not fully offset these cost increases by raising prices for our products and services, which could result in downward pressure on our margins. Further, our customers may choose to reduce their business with us if we increase our pricing. In November 2022, we announced certain reorganization and restructuring initiatives, under which we intend to reduce certain employee-related expenses and other operating expenses. While we expect our operating costs will be reduced in future periods as a result of these actions, we may not fully realize all of the anticipated cost savings. As a result of these and other factors, 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, and our competitive position in those markets, is difficult. We expect that our visibility into future sales of our products, including volumes, prices and product mix, including between our various platforms and between instruments and consumables, 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 on our business operations and financial results of higher inflation and rising interest rates, potential economic recession and other deteriorating factors in the macroeconomic environment.

These fluctuations may make financial planning and forecasting difficult. For example, in the first and third quarters of 2022, revenue did not meet expectations which adversely affected our stock price. 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 launches of our GeoMx DSP and CosMx SMI platforms are 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, CosMx SMI or other new product offerings, or manage our anticipated expenses accordingly, our operating results will be harmed.

Additionally, we implemented a Company-wide reduction in workforce starting in November 2022 to help achieve a more cost-efficient organization. The reduction in workforce impacted approximately 10% of our employees and we are still assessing the full impact of the reductions, which may yield unintended consequences and costs such as the loss of institutional knowledge and expertise, attrition beyond our intended reduction in workforce, lower morale among our remaining employees and the risk that we may not achieve the anticipated benefits of such cost-saving measures, all of which may have an adverse effect on our results of operations or financial condition.

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 or will conduct experiments using our nCounter, GeoMx DSP and CosMx SMI 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 product platforms. We expect that increasing the installed base of our nCounter, GeoMx and CosMx systems will drive demand for our higher margin consumable products. If we are not able to successfully increase our installed base of nCounter, GeoMx or CosMx systems, sales of our consumable products and our margins may not meet expectations.

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, including RNA-sequencing. For additional information regarding our competition, please see the section of this report captioned “[Business – Competition](#).”

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. 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 new consumables or capabilities for GeoMx or CosMx, or improved versions of AtoMx, would negatively impact our prospects for future revenue growth. AtoMx, which is a cloud-based informatics platform that has required complex software development, and which will require future development, was developed based on capabilities which are different than our historical research and development competencies. Our inability to attract and build the capabilities necessary to develop and operate cloud based software would negatively impact our ability to market and sell GeoMx and CosMx instruments and consumables.

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 2019 we commercially launched our GeoMx DSP system, in 2021 we launched new assays to analyze GeoMx DSP data on next generation sequencing systems, and in December 2022 we made our newest product platform, CosMx SMI and our AtoMx SIP available to customers.

GeoMx and CosMx target spatial genomics, a novel market opportunity and research application for which existing research experience and applications are limited. Prior to the launches of GeoMx and CosMx, we had not previously targeted this market and, as a result, we have limited marketing and selling experience. Our limited marketing and selling experience targeting these new markets and customers may hinder the successful commercialization of GeoMx, CosMx, AtoMx and related consumables.

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. For example, the COVID-19 pandemic disrupted our operations and the operations of the customers we service in our targeted markets, which impacted our growth and our ability to serve these markets. Our customers may be further affected by rising interest rates, inflation, potential economic recession and other deteriorating factors in the macroeconomic environment. 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.

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 possible health epidemics and other outbreaks. Such effects may include, for example:

- the temporary closure of our manufacturing facilities and/or those used in our supply chain processes;
- restrictions on the export or shipment of our products;
- unavailability of components and material 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;
- 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 extent to which health epidemics and other outbreaks, such as COVID-19, including any variants that have emerged or may emerge in the future, 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 a particular virus and its variants and the actions to contain it or treat its impact, among others. We cannot at this time quantify or forecast the potential 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 introduced relief measures intended to alleviate the impact of COVID-19 related disruptions and may introduce similar measures for future health epidemics and other outbreaks, we may not qualify for or benefit from such measures.

Our 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 GeoMx DSP, CosMx SMI and nCounter Analysis Systems, as well as related consumables, 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 impact of health epidemics and other outbreaks, such as COVID-19;
- changes in the regulatory environment;
- differences in budgetary cycles;
- competitor product offerings or pricing;
- inflationary pressures, rising interest rates, potential economic recession and other deteriorating factors in the macroeconomic environment;
- market-driven pressures to consolidate operations and reduce costs; and
- market acceptance of relatively new technologies, such as our GeoMx, CosMx and AtoMx platforms

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. For example, many of our customers reduced their activities in response to the COVID-19 pandemic, resulting in delays in instrument orders and lower consumable purchases. 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. 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. For example, in the first and third quarters of 2022, our revenue was lower than our forecast for reasons we did not predict, including uneven sales execution and the impact of changes made to re-align our expanded commercial team early in 2022, and a significantly different instrument order mix among our GeoMx and CosMx spatial biology platforms. 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 instruments 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;
- the cost of our research and development activities;
- the cost and timing of regulatory clearances or approvals;
- our ability to achieve the anticipated cost reductions from the reduction in workforce announced in November 2022;
- 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 \$230.0 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, and we may not achieve the anticipated cost reductions from the reduction in workforce announced in November 2022. 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 third-party manufacturers, service providers and single source suppliers for some of the components and materials used in our products, and the loss of any of these suppliers, or difficulties or delays in securing components or materials, could harm our business.

We rely on third-party manufacturers, service providers and single source suppliers for some of the components and materials used in our instruments, such as 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, D&K Engineering, Inc. of San Diego, California, to build our CosMx SMI. We also rely on HCL Technologies Limited of India, Seattle BioSoftware Inc. of Seattle, Washington and Amazon Web Services of Seattle Washington for software application development, cloud storage and computing services for AtoMx SIP.

Since our contracts with 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 suppliers. If we were to lose such suppliers, or if the products provided by such suppliers or third-party manufacturers 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 or manufacturers on a timely basis on acceptable terms, if at all. In addition, if as a result of global economic or political instability, such as the ongoing geopolitical tensions related to Russia's actions in Ukraine, disease outbreaks such as the COVID-19 pandemic, rising interest rates, potential economic recession and other deteriorating factors in the macroeconomic environment, or other factors impacting the global supply chain, our suppliers or third-party manufacturers 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. For example, in December 2022, we made our newest product platform, CosMx, available to customers. Delays or shortages in the global supply chain for certain components of the CosMx instrument may require that we source certain components from alternative suppliers that may be less experienced making components at the volumes that we may require, which may increase our costs or lead to delays in shipping instruments to our customers. 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.

Our agreements with third party software application developers and cloud computing service providers provide for the delivery of applications that include certain attributes or performance features, including cybersecurity measures. If we should encounter delays or difficulties in securing the delivery of applications, or updates to applications, with functionality and features as designed, the delivery of our products could be delayed, consumables sales and the pace of experimentation may be negatively impacted and the cost of delivering AtoMx to customers could be higher which may impact our gross profit margins. In addition, we, together with third party service providers, provide cybersecurity monitoring and other features designed to protect customer data that may be stored in the cloud through use of AtoMx. In the event of a data breach or other cybersecurity incident whereby customer data were, or believed or reported to be, compromised or otherwise impacted, we could face legal claims, investigations or proceedings by governmental entities or private parties, adverse publicity and harm to our reputation, loss of business, and significant fines, penalties, and other damages and liabilities. Any such event could result in material harm to our business and operating results.

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 health epidemics and other outbreaks, such as COVID-19, 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. These facilities 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 revenue internationally and are subject to various risks relating to our international activities, which could adversely affect our operating results.

Our revenue generated from sales to customers located outside of North America was approximately 35%, 35% and 32% for the years ended December 31, 2022, 2021 and 2020, 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 ongoing geopolitical tensions related to Russia's actions in Ukraine, resulting sanctions imposed by the U.S. and other countries, and retaliatory actions taken by Russia in response to such sanctions;
- 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 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.

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 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. Also, beginning in 2022, the TCJA eliminates the option to deduct research and development expenditures currently and requires

taxpayers to capitalize and amortize them over five or fifteen years pursuant to Code Section 174. Although there is proposed legislation that would defer the capitalization requirement to later years, we have no assurance that the provision will be repealed or otherwise modified. 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. Further, the Inflation Reduction Act of 2022, or the IRA, will become effective beginning in fiscal year 2023. We do not currently expect that the IRA will have a material impact on our income tax liability. 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 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, 2022, we had federal net operating loss carryforwards, or NOLs, to offset future taxable income of approximately \$623.2 million. The federal NOLs generated during and after fiscal 2018 totaling \$389.3 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.

We may fail to achieve the expected cost savings and related benefits from our reduction in workforce initiated in November 2022.

In November 2022, we announced a plan to reduce our workforce in order to enable a more cost-efficient organization. The reduction in workforce reduced employee headcount by approximately 10% by the end of 2022. The full impact of the reduction in workforce is not yet known.

We may fail to execute on, or achieve the stated goals of, the reduction in workforce. Our plans may also change as we continue to refocus certain key goals and priorities. These actions may take more time than we currently estimate and we may not be able to achieve the cost-efficiencies sought. In addition, the reduction in workforce may negatively impact employee morale for those who are not directly impacted, which may increase employee attrition and impact future recruiting efforts, hindering our ability to achieve our key priorities. Any failure to achieve the expected benefits from the reduction in workforce could adversely affect our stock price, financial condition and ability to achieve our key priorities, as well as lead to stockholder complaints and litigation.

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 may at times be significant, 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. Further, the reduction in workforce we announced in November 2022 may negatively impact our ability to recruit key personnel and makes retention of our current personnel more challenging.

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, ransomware or other malicious code, or other disruptive events including but not limited to terrorism, war or other military activity, power loss, flooding, fire, earthquake, or other natural disasters. Additionally, geopolitical tensions related to Russia's actions in Ukraine may increase cybersecurity risks. We are increasingly dependent upon our and our vendors' 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 and other security incidents — whether by employees or others — which may expose sensitive data to unauthorized persons. Such data security breaches and incidents, whether resulting from hacking, social engineering, phishing, or other causes could lead to the loss of confidential information, financial assets, trade secrets or other intellectual property, unauthorized access to, or disruptions to or other interruptions of, our platforms and products, or could lead to unauthorized access to or use, modification, unavailability, disclosure, loss or acquisition of, or the public exposure of, personal information (including sensitive personal information) of our employees, customers and others, or confidential information of ourselves, our customers or of other third parties that we maintain or otherwise process, 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 significant fines, penalties, and other damages and liabilities. In addition, these breaches and incidents and other inappropriate access, and security vulnerabilities in our software, platforms, and products can be difficult to detect. Any delay in identifying them and responding to or otherwise remediating them may lead to security breaches, incidents, and unauthorized access occurring, and increased harms of the type described above. We expect to continue to expend significant resources to protect against security breaches and incidents, and could be required to expend significant amounts to remediate and otherwise respond to security breaches and incidents, including in connection with making notifications to customers or other persons or implementing additional security measures. With the increase in personnel working remotely, we and our vendors have experienced and are at increased risk for security breaches and incidents. 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 or other data or information that we maintain or that otherwise is processed in our business.

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.

Any interruptions or delays in services from third parties, including cloud computing platform providers, and other software and hardware vendors, or from our inability to adequately plan for and manage service interruptions or infrastructure capacity requirements, could impair the delivery of our services and harm our business.

We rely on software developed by or licensed from, cloud computing platforms provided by, and computer hardware purchased or leased from, third parties in order to offer our services, including HCL Technologies Limited of India, Seattle BioSoftware Inc. of Seattle, Washington and Amazon Web Services of Seattle, Washington, which provide software application development, cloud storage and computing services for our AtoMx solution. AtoMx involves the storage and transmission of our customers' and our customers' customers' proprietary and other sensitive data. We or our customers may allow these third parties to access customer data to help deliver customer benefits, to host certain of our and our customers' data, which could include sensitive or personal data, or to perform other services. In addition, we share sensitive, nonpublic business information with other vendors in the ordinary course of business. A data breach or other cybersecurity incident involving third parties we rely on may have serious negative consequences for our businesses, including damage to, loss or unavailability of, or unauthorized use of, alteration, disclosure, acquisition, or other unauthorized processing or exploitation of sensitive customer data, or confidential or competitively sensitive information regarding our business, including intellectual property and other proprietary data, make our products more vulnerable to fraudulent activity, and cause temporary or sustained unavailability of our software and systems. Further, any such event, or the belief or perception it has occurred, may result in possible claims, demands, and litigation by private parties, demands, investigations, and proceedings by regulatory authorities, fines, penalties and damages and other liabilities; result in loss of customer confidence; cause material harm to our reputation and brands; lead to further regulation and oversight by federal or state agencies, and cause adverse financial conditions.

As we increase our reliance on these third-parties, particularly with respect to third-party software, hardware, data and cloud computing platforms, our exposure to damage from service interruptions and disruptions may increase. Any changes in third-party service levels or product features, or any errors, defects, infection by ransomware, viruses, or other malicious code, disruptions, or other performance problems with third-party software, hardware, data or cloud computing platforms on which our applications run, including performance problems related to cybersecurity threats or attacks, could adversely affect our reputation and may damage our customers' or other users' stored files, or their confidentiality, integrity, and availability, or result in lengthy interruptions in our services. Interruptions in and other disruptions to our services might adversely affect our reputation and operating results, cause us to issue refunds or service credits to customers for prepaid and unused subscription services, subject us to potential liabilities, result in contract terminations, or adversely affect our renewal rates.

These software, hardware, data and cloud computing platforms may not continue to be available at reasonable prices, or on commercially reasonable terms or at all. Any loss of ability to use any of these software, hardware, data or cloud computing platforms could significantly increase our expenses and otherwise result in delays in providing our services until equivalent technology is either developed by us, or, if available, is identified, obtained through purchase or license and integrated into our services.

If we do not accurately plan for our infrastructure capacity or other requirements and we experience significant strain on our cloud computing infrastructure, our customers could experience performance degradation or service outages that may subject us to financial liabilities, result in customer losses and harm our reputation and business. As we add capacity and continue to utilize cloud computing platform providers, we may be required to move or transfer our data or our customers' data. Despite precautions taken during this process, any unsuccessful data transfer may impair the delivery of our services, which may damage our business.

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 2020, the United Kingdom officially left the European Union. The full effect of Brexit remains uncertain, but Brexit creates economic and legal uncertainty in the region and could adversely affect the tax, currency, operational, legal and regulatory regimes to which our business is subject. Complying with changes in regulations in the United Kingdom in addition to European Union regulations has increased our costs of compliance and result in greater legal risks. There are many ways in which our business could be affected, some of which include additional volatility in global financial markets, new or modified trade agreements or data transfer agreements between the United Kingdom and other countries, including the United States, and 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 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 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." of this report. 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. 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.

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.

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 are not intended 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 medical devices and not subject to regulation by the Food and Drug Administration, or FDA. 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 the RUO designation. If the

FDA were to disagree that our products can be marketed as RUO, our products could be subject to government regulation, and the regulatory clearance or approval and maintenance process for such products may be uncertain, expensive, and time-consuming. If the FDA determines that our sales or distribution practices are not consistent with the RUO labeling, the FDA could consider our products to be misbranded and/or adulterated under the Federal Food, Drug, and Cosmetic Act and take adverse administrative or enforcement actions against us, such as requiring a recall or issuing a warning letter, among others, any of 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 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.

For medical devices that we manufacture for third parties, we are subject to ongoing and extensive regulatory requirements, and our failure to comply with these requirements could substantially harm our business.

The nCounter FLEX, for diagnostic use, which we supply to Veracyte in our capacity as a contract manufacturer, is regulated as an *in vitro* diagnostic medical device. 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 others. 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. Veracyte is responsible for continued medical device reporting, for example, reporting of adverse events and malfunctions; reporting certain corrections and removals; and labeling and promotional requirements as well as for regulatory clearances for future generations of the nCounter platform for use with clinical diagnostic applications. Other agencies may also issue guidelines and regulations that could impact the development, labeling, marketing, and distribution of these products, among other activities, including the European In Vitro Diagnostic Regulation, or IVDR. If Veracyte fails to comply with FDA regulatory obligations applicable to their activities, including those obligations assumed pursuant to the SSAs, it could adversely affect the sale of the device and potentially result in other harm to our business.

Our products 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, Veracyte, 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 authorities such as through the issuance of warning letters, fines, injunctions, and civil penalties; recall or seizure of products; operating restrictions; and criminal prosecution. In addition, we and Veracyte 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 commercial practices, as well as laws and regulations relating to privacy and data protection. If we or our agents and contractors are unable to comply, or have not complied, with such laws and regulations, 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. For as long as we manufacture nCounter FLEX and *in vitro* diagnostic kits for use with nCounter FLEX for Veracyte, or if we commercialize our other instruments for diagnostic use, our operations may be 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, 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. 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 False Claims Act and state equivalents;
- 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 and other national privacy laws.

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, Switzerland, and United Kingdom, in particular as a result of continued legal and legislative activity within those regions. The EU-U.S.- and Swiss-U.S. Privacy Shield frameworks and the SCCs have been subject to legal challenge and on July 16, 2020, the Court of Justice of the European Union, or CJEU, issued a decision invalidating the EU-U.S. Privacy Shield and imposing additional requirements in connection with the use of the SCCs. The Swiss-U.S. Privacy Shield also has been declared invalid. The European Commission issued new SCCs in June 2021 that were required to be put in place. Additionally, the United Kingdom's Information Commissioner's Office issued new standard contractual clauses to support personal data transfers out of the United Kingdom on February 2, 2022 that were required to be used for new contractual arrangements as of September 21, 2022, and must replace prior standard contractual clauses as of March 21, 2024. On March 25, 2022, the United States and EU announced an "agreement in principle" to replace the EU-U.S. Privacy Shield with the Trans-Atlantic Data Privacy Framework. Although progress has since been made towards the establishment of this as a valid transfer mechanism, this framework has not yet been established, and it remains unclear whether it will be appropriate for us to utilize if it is established. More generally, we are assessing these developments and their 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, Switzerland, and United Kingdom to apply different standards to the transfer of personal data from those regions to the U.S., and to block, or require ad hoc verification of measures taken with respect to, certain data flows from those regions 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 residents of those regions. The regulatory environment applicable to the handling of the personal data of EEA, Switzerland, and United Kingdom residents, 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 those regions relating to personal data transfers. 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.

The United Kingdom maintains the Data Protection Act of 2018 and the UK GDPR, which collectively implement and complement the GDPR and provide for penalties for noncompliance of up to the greater of £17.5 million, or four percent, of worldwide revenues. On June 28, 2021, the European Commission announced a decision of "adequacy" concluding that the

United Kingdom ensures an equivalent level of data protection to the GDPR, which provides some relief regarding the legality of continued personal data flows from the EEA to the United Kingdom. Such adequacy decision must, however, be renewed after four years and may be modified or revoked in the interim. We cannot fully predict how the Data Protection Act, the UK GDPR and other United Kingdom data protection laws or regulations may develop in the medium to longer term, nor the effects of divergent laws and guidance regarding how data transfers to and from the United Kingdom will be regulated.

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.

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, 2022, we owned or licensed approximately 38 issued U.S. patents and approximately 21 pending U.S. patent applications, including provisional and non-provisional filings and 5 pre-nationalization PCT applications. We also owned or licensed approximately 312 pending and granted counterpart applications worldwide, including 123 country-specific validations of 17 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. 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 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 inside or outside 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 United States 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 which provide practical assurance that the processes are genuinely 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, June 2018, January 2019 and October 2019. 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 investors 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; the foreign court may find that our enforced patent is invalid or unenforceable.

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 is 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.

Geopolitical actions in the United States and in foreign countries could increase the uncertainties and costs surrounding the prosecution or maintenance of our patent applications or those of any current or future licensors, and maintenance, enforcement or defense of our issued patents or those of any current or future licensors. For example, the United States and foreign government actions related to Russia's invasion of Ukraine may limit or prevent filing, prosecution and maintenance of patent applications in Russia. Government actions may also prevent maintenance of issued patents in Russia. These actions could result in abandonment or lapse of our patents or patent applications, resulting in partial or complete loss of patent rights in Russia. If such an event were to occur, it could have a material adverse effect on our business. In addition, a decree was adopted by the Russian government in March 2022, allowing Russian companies and individuals to exploit inventions owned by patentees that have citizenship or nationality in, are registered in, or have a predominately primary place of business or profit-making activities in the United States and other countries that Russia has deemed unfriendly without consent or compensation. Consequently, we would not be able to prevent third parties from practicing our inventions in Russia or from selling or importing products made using our inventions in and into Russia. Accordingly, our competitive position may be impaired, and our business, financial condition, results of operations and prospects may be adversely affected.

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 and technology relating to Prosigna licensed from Veracyte. 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 were 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 has 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 believes that we are not paying the royalties due under the license or are 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 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. Additionally, under the Bayh-Dole Act, the U.S. government has certain rights to inventions developed with such grants.

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.

For example, on May 6, 2021, 10x Genomics, Inc. and Prognosys Biosciences, Inc. filed a complaint, on May 19, 2021, they filed an amended complaint, and on May 4, 2022 they filed a second amended complaint, against us in the U.S. District Court for the District of Delaware. Further, on February 28, 2022, 10x Genomics, Inc. and President and Fellows of Harvard College filed a complaint, and on May 12, 2022, an amended complaint, against us in the U.S. District Court for the District of Delaware. In addition, on March 4, 2022, 10x Genomics, Inc. filed suit against us in the Munich Regional Court in Germany. The complaints allege infringement of certain patents described in the complaints, and seek, among other relief, injunctive relief and unspecified damages (including attorneys' fees). We have evaluated the plaintiffs' claims and do not believe that our activities infringe any patent rights held by the plaintiffs, and we intend to vigorously defend ourselves. If the plaintiffs prevail in these pending litigations, we may be prohibited from selling the alleged infringing products and services in the United States, Germany, and potentially elsewhere or be ordered to pay significant damages or both, either of which would have a material and adverse impact on our business. Even if we ultimately prevail in these litigations, litigation is costly, time-consuming and will divert our management's attention, which could also have a material and adverse impact on our business. For additional information regarding these pending litigations, please refer to the section of this report titled "Legal Proceedings."

Litigation may also be necessary for us to protect or enforce our patent and proprietary rights, to defend against third-party claims or to determine the scope, coverage and validity of the proprietary rights of others. For example, on October 20, 2022, we filed suit against 10x Genomics, Inc. in the U.S. District Court for the District of Delaware alleging that 10x Genomics' Visium Spatial Gene Expression system and related products and services infringe our U.S. Patent No. 11,473,142, "Chemical Compositions and Uses Thereof," and, on January 24, 2023, our additional infringement claims against 10x Genomics with respect to a second NanoString patent, U.S. Patent No. 11,377,689, were consolidated into this case. 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, 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 may 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;
- developments in our pending litigations with 10x Genomics, Inc. and its co-plaintiffs;
- 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 its variants and related containment and mitigation measures, rising interest rates, potential economic recession and other deteriorating factors in the macroeconomic environment;
- 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, including developments relating to our reduction in workforce announced in November 2022;
- 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.

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.

Rules implemented by the SEC pursuant to the Sarbanes-Oxley Act 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. 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 2020 and 2019, including increased staffing and investments in additional technology and other expenses. While we have since remediated the material weakness, maintaining adequate internal control over financial reporting will continue to require significant management attention and the incurrence of additional expense.

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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

Our leased properties include five long-term operating lease agreements for approximately 162,322 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 2032 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.

Our landlords hold security deposits of approximately \$1.4 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

On May 6, 2021, 10x Genomics, Inc. and Prognosys Biosciences, Inc., or “Prognosys”, filed a complaint, and on May 19, 2021, an amended complaint, and on May 4, 2022, a second amended complaint, against us in the U.S. District Court for the District of Delaware. The amended complaint alleges that certain of our products, services and components sold by us for use in connection with our GeoMx DSP system (the “Identified GeoMx Products”) infringe seven patents owned by Prognosys: (a) U.S. Patent No. 10,472,669, “Spatially encoded biological assays,” (b) U.S. Patent No. 10,961,566, “Spatially encoded biological assays,” (c) U.S. Patent No. 10,983,113, “Spatially encoded biological assays,” (d) U.S. Patent No. 10,996,219, “Spatially encoded biological assays,” (e) U.S. Patent No. 11,001,878, “Spatially encoded biological assays,” (f) U.S. Patent No. 11,008,607, “Spatially encoded biological assays,” and (g) U.S. Patent No. 11,293,917, “Systems for analyzing target biological molecules via sample imaging and delivery of probes to substrate well” (the “Asserted Prognosys Patents”). The amended complaint seeks, among other relief, injunctive relief and unspecified damages (including treble damages and attorneys’ fees) in relation to our making, using, selling, offering to sell, exporting and/or importing in the United States the Identified GeoMx Products, as well as the alleged infringement by others of the Asserted Prognosys Patents through their use of the Identified GeoMx Products. We have evaluated the plaintiffs’ claims and do not believe that our activities infringe any patent rights held by the plaintiffs. On November 17, 2021, the Court granted our motion to dismiss the plaintiffs’ claims of pre-suit indirect infringement and willful infringement with leave to amend the complaint. Discovery is in progress. A claim construction hearing was held on February 17, 2023. A trial is scheduled for November 2023. We intend to vigorously defend ourselves in this litigation.

On February 28, 2022, 10x Genomics, Inc. and President and Fellows of Harvard College, or “Harvard”, filed a complaint, and on May 12, 2022, an amended complaint, against us in the U.S. District Court for the District of Delaware. The complaint alleges that certain of our products, services and components sold by us for use in connection with our CosMx SMI system (the “Identified CosMx Products”) infringe five patents owned by Harvard: (a) U.S. Patent No. 10,227,639, “Compositions and Methods for Analyte Detection,” and (b) U.S. Patent No. 11,021,737, “Compositions and Methods for Analyte Detection,” (c) U.S. Patent No. 11,293,051, “Compositions and Methods for Analyte Detection”, (d) U.S. Patent No. 11,293,052, “Compositions and Methods for Analyte Detection,” and (e) U.S. Patent No. 11,293,054, “Compositions and Methods for Analyte Detection” (the “U.S. 10x CosMx Case”). The complaint seeks, among other relief, injunctive relief and unspecified damages (including attorneys’ fees) in relation to our making, using, selling, offering to sell, exporting and/or importing in the United States the Identified CosMx Products. We have evaluated the plaintiffs’ claims and do not believe that our activities infringe any patent rights held by the plaintiffs. Discovery is in progress. A claim construction hearing is scheduled for July 2023 and a trial is scheduled for June 2024. We intend to vigorously defend ourselves in this litigation. On August 16, 2022, we filed counterclaims in this action alleging that 10x Genomics’ Visium Spatial Gene Expression system and related products and services infringe our U.S. Patent No. 11,377,689, “Chemical Compositions and Uses Thereof.” On January 24, 2023, these counterclaims were consolidated with the claims of a separate patent infringement case that we filed against 10x Genomics on October 20, 2022, as discussed below.

On May 9, 2022, we were notified of a complaint, dated March 4, 2022, naming us and our wholly-owned subsidiary, NanoString Technologies Germany GmbH, which 10x Genomics, Inc. filed in the Munich Regional Court I in Germany, alleging that our CosMx SMI system and associated products and services infringe European Patent No. 2794928B1, or “EP 2794928B1”, which is owned by Harvard. The complaint seeks, among other relief, injunctive relief and damages in relation to our selling and offering to sell our CosMx SMI system and associated products and services in Germany. We have evaluated the claims and do not believe that our activities infringe any patent rights held by 10x or Harvard. A hearing is scheduled for March 2023 in this proceeding. We intend to vigorously defend ourselves in this litigation. On July 29, 2022, we, through our German subsidiary, filed a nullity action with the German Federal Patent Court in Munich requesting a judgment that EP 2794928B1, as in effect for Germany, be declared invalid and be revoked in its entirety. On February 10, 2023, the German Federal Patent Court issued a preliminary and non-binding opinion in this nullity action finding that the subject matter of the asserted independent claim 1 of EP 2794928B1 potentially lacked novelty and lacked an inventive step over prior art. The preliminary opinion further addressed Harvard’s seven patent claim limitation requests, referred to as auxiliary requests, which 10x and Harvard seek to have applied in the event that claim 1 of EP 2794928B1, as granted, proves not to be protectable. The preliminary opinion stated that the claim limitations in Auxiliary Request 1 could potentially be used to defend EP 2794928B1 over the cited prior art. The preliminary opinion further stated that Harvard would potentially not be able to use Auxiliary Requests 2 through 7 to establish novelty over the prior art. A hearing before the German Federal Patent Court is scheduled for May 2024 and a decision in the nullity action is expected following the hearing.

On October 20, 2022, we filed suit against 10x Genomics, Inc. in the U.S. District Court for the District of Delaware alleging that 10x Genomics’ Visium Spatial Gene Expression system and related products and services infringe our U.S. Patent No. 11,473,142, “Chemical Compositions and Uses Thereof.” On January 24, 2023, our claims from the U.S. 10x CosMx Case with respect to U.S. Patent No. 11,377,689 were consolidated with the claims in this action. We seek, among other relief, injunctive relief and unspecified damages (including attorneys’ fees) in relation to 10x Genomics’ making, using, selling, offering to sell, exporting and/or importing in the United States the Visium system and related products and services. Discovery is in progress. A case schedule has not yet been set.

Other than the pending litigations with 10x Genomics and its co-plaintiffs, 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. Other than the pending litigations with 10x Genomics and its co-plaintiffs, 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 operations, 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

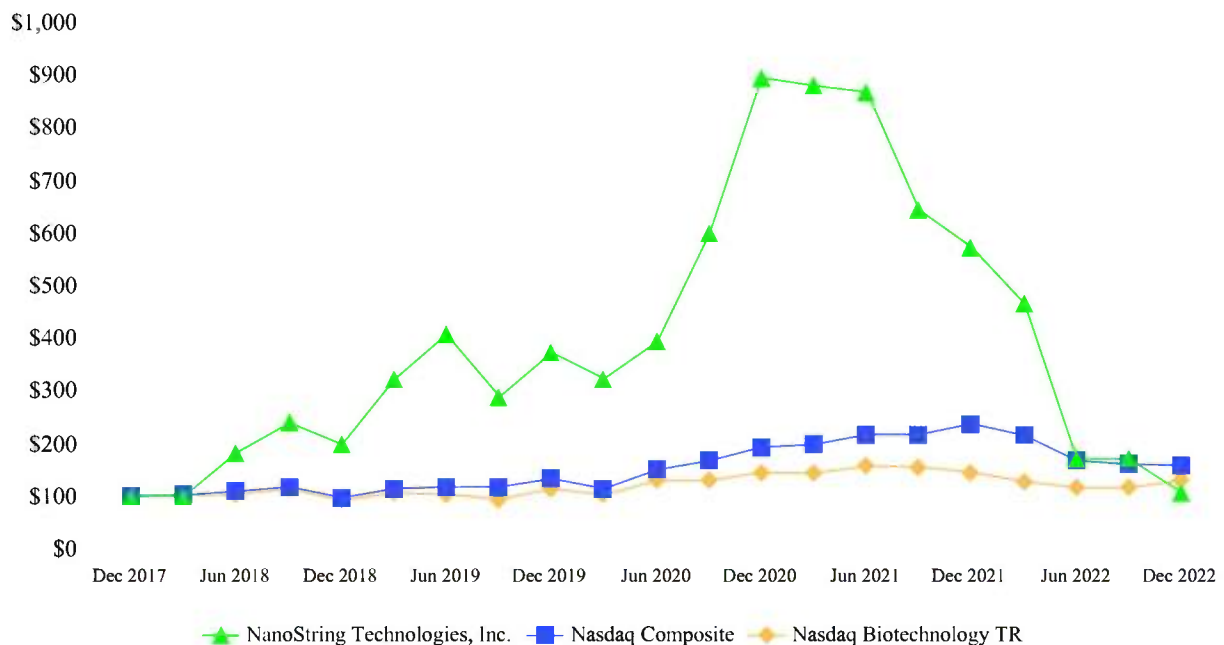
As of February 21, 2023, there were approximately 18 holders of record of our common stock. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees.

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 Biotechnology TR Index. This graph assumes an investment of \$100 on December 31, 2017 in each of our common stock, the Nasdaq Composite Index and the Nasdaq Biotechnology TR 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.

**Comparison of Cumulative Total Return Among NanoString Technologies, Inc.
Nasdaq Composite Index and Nasdaq Biotechnology TR**



Recent Sales of Unregistered Securities

None.

Securities Authorized for Issuance under Equity Compensation Plans

The following table summarizes information about our equity compensation plans as of December 31, 2022. 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 ⁽¹⁾	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) ⁽²⁾
Equity compensation plans approved by security holders:			
2013 Equity Incentive Plan	3,341,792	\$ 16.99	—
2013 Employee Stock Purchase Plan	—	N.A.	883,793
2022 Equity Incentive Plan	712,860	\$ 13.41	5,045,764
Equity compensation plans not approved by security holders ⁽³⁾ :	92,830	\$ 18.88	7,171
Total	4,147,482	N.A.	5,936,728

⁽¹⁾ RSUs, which do not have an exercise price, are excluded in the calculation of weighted-average exercise price.

⁽²⁾ 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.

⁽³⁾ On January 15, 2018, our board of directors adopted the NanoString Technologies, Inc. 2018 Inducement Equity Incentive Plan, or 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) 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 2022 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. On February 27, 2023, our board of directors approved an amendment to the Inducement Plan to increase the number of shares of the Company’s common stock available for issuance pursuant to equity awards granted under the Inducement Plan from 250,000 shares to 425,000 shares. For additional information, see the section of this report captioned “[Part II—Item 9B. Other Information](#).”

Item 6. 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.

The discussion regarding our financial condition and results of operations for the year ended December 31, 2020 and the comparison of the year ended December 31, 2021 to the year ended December 31, 2020 have been omitted from this Annual Report on Form 10-K and is incorporated by reference from our Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on March 1, 2022, under the section titled "[Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations](#)."

Overview

We develop, manufacture and market technologies that unlock scientifically valuable and clinically actionable information from minute amounts of biological material, primarily for life science researchers in the fields of genomics and proteomics. Our mission is to offer an ecosystem of innovative discovery and translational research solutions that enable our customers to map the universe of biology, enabling scientific exploration that may lead to new therapies that can improve the human condition.

Our technologies include proprietary chemistries that enable the labeling and counting of single molecules. Our product platforms are used for scientific discovery and clinical research applications, often in connection with pharmaceutical product development and human clinical trials of potential new therapies. Our proprietary chemistries may reduce the number of steps required to conduct certain types of scientific experiments, enable the collection of multiple data points in a single experiment and allow for multiple experiments to be conducted at once. Our chemistries and instruments 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 larger amounts of data and faster, more consistent scientific results.

Our ecosystem of solutions consists of (i) our spatial biology platforms, including our GeoMx Digital Spatial Profiler, or "GeoMx DSP" or "GeoMx", our CosMx Spatial Molecular Imager, or "CosMx SMI" or "CosMx", and our AtoMx Spatial Informatics Platform, or "AtoMx SIP" or "AtoMx", a cloud-based, open source and fully integrated informatics solution for use with GeoMx DSP and CosMx SMI, and (ii) our nCounter Analysis System, our original product platform for multi-plex bulk gene expression analysis. All of our product platforms include instruments, related consumables, software and services, have the versatility to detect both RNA and protein expression and are able to generate reliable and reproducible data in a variety of biological sample types, including formalin fixed paraffin embedded, or FFPE, sample types. Our product platforms allow our customers to progress their research in areas such as oncology, immunology and neurology. 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 selected distributors in certain markets.

nCounter, which was commercially launched in 2008, is used to conduct what is known as "bulk" gene expression analysis, whereby biological samples are first reduced, and then gene expression, specifically quantities of selected RNA or proteins, are measured at their average levels throughout the totality of the sample. nCounter can be used to analyze the activity of up to 800 genes in a single experiment. As of December 31, 2022, we had an installed base of approximately 1,120 nCounter systems, which our customers have used to publish more than 6,520 peer-reviewed papers.

GeoMx DSP, which was commercially launched in 2019, is a pioneering product platform in the emerging field of spatial biology. While nCounter and other common gene expression analysis technologies use bulk analysis approaches, GeoMx is used to analyze selected regions of an intact biological sample without the need to reduce or destroy the sample, enabling researchers to see how gene expression might vary across those regions. After a researcher selects regions of interest, GeoMx arranges the biological information extracted from these regions to be subsequently quantified and analyzed, or "read out," by a platform such as nCounter, whereby researchers can obtain information on up to 96 biological targets per selected region of interest, or by a next generation sequencer, or NGS, system, such as systems manufactured by Illumina, Inc., whereby researchers can obtain information on up to 18,000 biological targets, or the whole possible universe of potential RNA targets, per selected region of interest. As of December 31, 2022, we had an installed approximately 350 GeoMx systems, which customers have used to publish approximately 190 peer-reviewed scientific papers.

CosMx SMI, which was commercially launched in December 2022, is a new product platform in the field of spatial biology and complements our GeoMx DSP platform. While GeoMx offers researchers the ability to profile gene expression activity in a selected region of interest that may contain multiple cells or cell types, CosMx is designed to enable multiplexed spatial profiling of RNA and protein targets at a single and sub-cellular resolution level. While GeoMx allows for more rapid, higher throughput analysis of gene expression activity in selected regions of interest, CosMx is designed to allow researchers to “drill down” into a specific single cell or sub-cellular area in a region of interest to gather more information as desired or required. CosMx can be used to analyze up to 1,000 RNA targets, or up to 68 protein targets, at a single or sub-cellular level of resolution within morphologically intact tissue samples, and is expected after further product development to have the ability to analyze up to 6,000 RNA targets, or up to 120 protein targets.

AtoMx SIP, which was commercially launched in December 2022, is a new a cloud-based, open source spatial biology informatics platform, initially for use with CosMx, and eventually also with GeoMx. Researchers' desire for ever larger amounts of data in their spatial biology experiments has led to significant “big data” management issues, including the ability to store, access and efficiently analyze experimental data at a reasonable cost. AtoMx is designed to take advantage of significant advances in cloud computing and facilitate the easy storage of the large data sets and images generated by spatial biology experiments. AtoMx also enables researchers to perform image analysis and data visualization, as well as sharing of data and analysis with collaborators, using scalable and on-demand cloud computing. We believe AtoMx will enable researchers to easily and quickly analyze the substantial scientific data and tissue images generated by spatial biology experiments, while avoiding the large computing infrastructure and security costs associated with operating in-house data centers. AtoMx is currently available to researchers using CosMx, and is expected to be made available for GeoMx users by the end of 2023.

In advance of and subsequent to our commercial launch of GeoMx, CosMx and AtoMx, we have provided selected customers in-house sample testing services whereby customers send biological samples to our Seattle facilities to be analyzed using our product platforms and selected consumables under our technology access program, or TAP. Upon completion of each project, the raw data and analysis report is provided to the customer.

We derive a substantial majority of our revenue from the sale of our products, which consist of our GeoMx, CosMx, and nCounter 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 panel products, nCounter custom codeset products that contain a specific set of targets for scientific analysis as requested by a customer, and the Prosigna breast cancer assay which is manufactured for our partner Veracyte Inc, or Veracyte. We also derive revenue from processing fees related to proof-of-principle studies, including from our GeoMx DSP and CosMx TAP which we conduct for potential customers. For GeoMx, CosMx and nCounter, we offer extended service contracts and generate service revenue. We also expect to generate revenue in future periods from AtoMx in the form software license, cloud computing and data storage fees.

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 code sets, and reagent packages 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 \$70.8 million, \$69.5 million and \$62.9 million in 2022, 2021 and 2020, respectively. We intend to make significant investments in research and development to support our existing instrument platforms and related consumable offerings, as well as research and development of new technologies.

Our revenue decreased 12% to \$127.3 million in 2022, compared to \$145.1 million in 2021. The decrease was driven primarily by decreased revenues from our sales of GeoMx systems, related to greater allocation of customer budgets to our CosMx instruments for which we booked orders in 2022 but for which no revenue was recognized until the fourth quarter, and lower consumables utilization by GeoMx customers. Sales of nCounter systems and related consumables also decreased during the period, primarily as a result of the aging of our nCounter platform, greater customer interest in newer gene expression technologies and decreased system utilization by our older nCounter customers.

The decreases in GeoMx and nCounter were partially offset by our revenue from our first commercial shipments of CosMx systems and related consumables during the fourth quarter of 2022. Our revenue increased 24% to \$145.1 million in 2021, compared to \$117.3 million in 2020. 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 and its impact on lab activity with our customers during 2020.

We have never been profitable and had net losses of \$159.5 million, \$115.3 million and \$110.1 million in 2022, 2021 and 2020, respectively. As of December 31, 2022, our accumulated deficit was \$809.3 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. 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 spatial biology and nCounter platforms, including instruments and related consumables. Our GeoMx DSP system has a U.S. list price of \$295,000. Our CosMx SMI system has a U.S. list price of \$345,000, which is inclusive of an initial amount of AtoMx SIP-related data storage and cloud computing services. Our nCounter Pro system, which typically consists of one nCounter Digital Analyzer and one nCounter Prep Station, has a U.S. list price of \$249,000. The U.S. list price of the nCounter FLEX system is \$300,000. Our nCounter SPRINT Profiler system has a reduced footprint and combines the function of the prep station with the digital analyzer in a single instrument and has a U.S. list price of \$149,000.

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 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 any combination of our systems together as a bundle, or we may sell a system together with an initial order of consumables or service contracts 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 GeoMx DSP, CosMx SMI and nCounter Analysis 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 GeoMx system was approximately \$71,000 for the year ended December 31, 2022. Our average annualized consumables revenue per installed nCounter system was approximately \$45,000 for the year ended December 31, 2022, which includes our nCounter consumables sales and sales of our Prosigna kits.

Service and Other Revenue

Service and other revenue consists of fees associated with service contracts and fees for conducting various forms of data analysis studies, including providing services under our Technology Access Programs, or TAP, and our collaboration revenue. 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 TAP services and other data analysis studies to prospective customers in order to help them better understand the benefits of our technologies, primarily of our GeoMx and CosMx systems. Collaboration revenue has historically been derived primarily from our completed collaboration with Lam and our terminated collaborations with Celgene and Merck.

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, Japan, Singapore, South Korea, and India 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

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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,								
	2022		2021		2020				
	(Dollars in thousands)								
Americas	\$	82,959	65 %	\$	94,360	65 %	\$	79,787	68 %
Europe & Middle East		33,221	26 %		35,170	24 %		26,897	23 %
Asia Pacific		11,082	9 %		15,555	11 %		10,632	9 %
Total revenue	\$	127,262	100 %	\$	145,085	100 %	\$	117,316	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 Revenue

Cost of 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 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 GeoMx DSP, CosMx SMI and nCounter Analysis 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 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,		
	2022	2021	2020
	(In thousands)		
Research and discovery	\$ 18,213	\$ 39,770	\$ 33,530
Manufacturing, support and services	10,032	8,198	9,042
Product and process engineering	32,562	9,396	8,918
Regulatory and medical affairs	756	1,351	1,633
Facilities and overhead	9,278	10,789	9,734
Total research and development expense	<u>\$ 70,841</u>	<u>\$ 69,504</u>	<u>\$ 62,857</u>

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.”

Instrument Installed Base

Our future financial performance will be driven by continued adoption and utilization of our systems. As of December 31, 2022, we had an installed base of approximately 350 GeoMx DSP systems and approximately 1,120 nCounter Analysis Systems. Future revenue may be impacted by the introduction of new product platforms, such as CosMx SMI, for which our first commercial instruments shipped during the fourth quarter of 2022.

We will continue to employ strategies to increase the adoption rate of our instrument platforms, including potentially expanding our sales channel in both direct and distributor territories, developing new consumable and software content and enhancing certain features for our spatial biology and nCounter platforms. 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 spatial biology and nCounter instruments are primarily 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 GeoMx DSP system was approximately \$71,000 and \$97,000 for the years ended December 31, 2022 and 2021, respectively. The decrease in GeoMx pull-through in 2022 was driven primarily by lower consumables utilization by a large group of more recent GeoMx customers, as compared to older customers that have owned their GeoMx systems for multiple years. Our average annualized consumable pull-through per installed nCounter system was approximately \$45,000 and \$55,000 for the years ended December 31, 2022 and 2021, respectively. The decrease in nCounter consumable pull-through in 2022 was due primarily to the impact of the aging of our nCounter platform, greater customer interest in newer gene expression technologies and decreased system utilization by our older nCounter customers.

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 and age 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, compared to periods prior to entering into the LAPA.

We expect our consumables revenue may continue to increase in future periods, as a result of the growth in sales of GeoMx and CosMx, the introduction of new spatial biology and nCounter consumable products, the continued growth of the installed base of our GeoMx, CosMx and nCounter and future enhancements of our AtoMx SIP and related cloud-based portal data storage and analysis fees.

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 derived historically primarily from our completed collaboration with Lam, and our terminated 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 our spatial biology and nCounter platform instruments and related consumables. Generally, our consumables have higher gross margins than our instruments. Our GeoMx DSP and CosMx SMI instruments contribute a higher average gross margin as compared to our nCounter instruments. There may be fluctuations in sales mix between instruments and consumables from period to period.

Our future gross margins may vary from period to period depending upon the composition of revenue among our platforms, as well as our overall sales mix. For example, if consumables constitute a larger percentage of total product revenue, such a mix shift may increase our gross margins. Such gross margin increases may be offset by the mix of consumable products sold, the introduction of new instrument product platforms that become increasing components of our product sales, such as CosMx SMI, or investment in additional manufacturing capacity to support the growth of our business. 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.

We will continue to employ other growth strategies in addition to introducing new product platforms, including potentially expanding our sales channel in both direct and distributor territories, developing new consumable content for our product platforms and enhancing certain features of our product platforms.

Results of Operations

Comparison of Years Ended December 31, 2022 and 2021

Revenue

	Year Ended December 31,				Change	
	2022		2021		Dollars	Percentage
	(Dollars in thousands)					
Product revenue:						
Instruments	\$	37,589	30 %	\$	55,616	38 %
Consumables		70,367	55 %		71,846	50 %
Total product revenue		107,956	85 %		127,462	88 %
Service and other revenue		19,306	15 %		17,623	12 %
Total revenue	\$	127,262	100 %	\$	145,085	100 %
					\$	(17,823)
						(12)%

Instrument revenue for the year ended December 31, 2022 decreased as compared to the prior year, due primarily to decreased commercial shipments of GeoMx DSP and nCounter systems. We believe the lower number of GeoMx systems shipped was due primarily to spatial biology market development trends that impacted our mix of system orders, with more CosMx systems ordered by customers than expected, as compared to GeoMx systems. For nCounter, revenue related to our nCounter Pro was stronger, while demand for our older FLEX and Sprint models reduced significantly as compared to the prior year. These revenue decreases were partially offset by revenue realized from initial shipments of our new CosMx SMI system in the fourth quarter of 2022.

Consumables revenue includes sales of consumables for our spatial biology systems and nCounter, and also includes sales of Prosigna *in vitro* diagnostic kits to our partner Veracyte. Consumables revenue decreased for the year ended December 31, 2022 as compared to 2021. This decrease was due primarily to lower nCounter consumables sales, mainly as a result of lower sales to older systems in our installed base, as well as other factors impacting demand in certain territories outside of the United States. The decrease in nCounter consumables sales was partially offset by an increase in spatial biology consumables sales.

Service and other revenue for the year ended December 31, 2022 increased as compared to 2021, due to increased revenue generated from GeoMx and CosMx TAP and the growth in service contract revenue derived from our increasing installed bases of GeoMx and nCounter systems.

During 2020 and 2021 and to a lesser extent during 2022, the COVID-19 pandemic impacted our ability to solicit and fulfill customer orders and record related revenue. While all revenue categories have been impacted due to lab closures and lower customer activity, nCounter-related consumables revenue has been impacted most substantively. A resurgence of COVID-19 or a variant thereof, could recur at any time, with a resulting negative impact on our business. As in the past, we would expect our revenue to be negatively impacted overall, and our consumables revenue to be more severely impacted as consumables revenue more closely correlates with day-to-day customer research activity. However, we cannot predict with any certainty the extent to which any resurgence in COVID-19 or a variant thereof would impact our business and it is possible that the effects of such a resurgence would have different or more severe impacts on our business than we have experienced in the past.

With consideration to these potential negative impacts on our business related to COVID-19, uncertainties arising from geopolitical and other macroeconomic uncertainties, we expect our revenue may continue to increase in future periods, primarily as a result of the shipment of CosMx systems for which we received orders in 2021 and 2022, growth in consumables sales from our increasing installed base of GeoMx and CosMx systems and the introduction of new spatial biology consumables, services, or other products.

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Cost of Revenue; Gross Profit; and Gross Margin

	Year Ended December 31,		Change	
	2022	2021	Dollars	Percentage
	(Dollars in thousands)			
Cost of revenue	\$ 65,475	\$ 68,304	\$ (2,829)	(4)%
Gross profit	\$ 61,787	\$ 76,781	\$ (14,994)	(20)%
Gross margin	49 %	53 %		

For the year ended December 31, 2022, cost of product revenue decreased as compared to 2021, due primarily to fewer shipments of GeoMx and nCounter systems, as well as decreased volume of nCounter consumable sales as compared to the same periods in prior year. These decreases were partially offset by increased investments made to support our consumable manufacturing capabilities for our spatial biology platforms, increased inventory reserves, and increased costs associated with providing service for our growing installed based of systems.

Our gross margin for the year ended December 31, 2022 decreased compared to 2021, primarily due to the impact of lower product sales volume realized as compared to relatively fixed costs of our manufacturing and operations, particularly costs related to labor and facilities. Certain of these fixed costs were capitalized during the course of 2022, and were subsequently expensed in the fourth quarter coincident with the reduction in force we concluded in November of 2022. In addition, we have experienced increased costs associated with sourcing certain materials and shipping products to our customers. These impacts were partially offset by a favorable mix of consumables revenue relative to our total revenue, as revenue from our consumables generally have higher gross margins compared to our instrument platforms.

We expect our cost of revenue will increase in future periods, given the anticipated growth in sales of our spatial biology platforms, and due to investments in additional field service personnel that provide installation, training and other support services for our product platforms. We also expect to continue to make investments in our operations to support the growth of our business and that may improve our manufacturing efficiency and reduce production costs. We expect these investments and potential cost increases may be partially offset by certain reductions in employee and other operating costs related to our November 2022 reorganization initiatives.

We expect our gross margin on revenue may fluctuate in future periods. Variability will depend in part on the level of our consumables revenue, for which we typically record higher gross margins and operate the manufacturing process directly, as compared to our instrument sales or service revenue, for which we typically record lower margins. Our gross margins may also vary depending on potential expenses we may incur for regulatory compliance, quality assurance or activities and investments related to expansion of our manufacturing capacity or improvements in our manufacturing efficiency. In addition, as business activity continues to recover through the pandemic, the cost and global availability of certain raw materials and other supplies have been impacted. While to date our operations, supply chain or costs have not been materially impacted, our gross margins could be affected in the future by changes in the cost or availability of certain raw materials or supplies. Notwithstanding the foregoing, we expect our gross margins may increase in the longer term as consumable sales become a larger percentage of our total revenue, which will increase utilization of our direct manufacturing facility and certain associated fixed costs.

Research and Development Expense

	Year Ended December 31,		Change	
	2022	2021	Dollars	Percentage
	(Dollars in thousands)			
Research and development expense	\$ 70,841	\$ 69,504	\$ 1,337	2%

The increase in research and development expense for the year ended December 31, 2022 is due primarily to higher personnel-related and laboratory supply costs to support product development activities for our spatial biology platforms. In addition, personnel-related costs increased as a result of certain restructuring costs, including severance benefits, related to our reduction in workforce which was initiated in November 2022. These increases were partially offset by the capitalization of certain costs relating to internally developed software and technology, including certain professional fees associated with design and development of our AtoMx SIP.

We continue to invest in product development activities associated with our spatial biology platforms and our AtoMx SIP. We expect research and development expense to increase modestly in future periods, reflecting the impact of increasing investments in our spatial biology and other future projects and technologies.

Selling, General and Administrative Expense

	Year Ended December 31,		Change	
	2022	2021	Dollars	Percentage
	(Dollars in thousands)			
Selling, general and administrative expense	\$ 143,129	\$ 115,503	\$ 27,626	24%

The increase in selling, general and administrative expense for the year ended December 31, 2022 as compared to 2021, is due primarily to increased investments made to support our spatial biology-related commercial initiatives, as well as increases in advertising, travel and trade show related activities, investments in software, professional fees and certain one-time expenses associated with our November 2022 reorganization and restructuring initiatives. We have also incurred increased costs during 2022 related to ongoing legal proceedings. These increases were partially offset by lower stock-based compensation costs.

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 spatial biology business and the introduction of new products and product platforms.

Other Income (Expense), net

	Year Ended December 31,		Change	
	2022	2021	Dollars	Percentage
	(Dollars in thousands)			
Interest income	\$ 2,409	\$ 649	\$ 1,760	271%
Interest expense	(7,535)	(7,490)	(45)	1%
Other expense, net	(1,917)	(20)	(1,897)	9,485%
Total other income (expense), net	\$ (7,043)	\$ (6,861)	\$ (182)	3%

Interest income increased for the year ended December 31, 2022 as compared to 2021, due primarily to higher investment yields on our short term investments. 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. While we are beginning to see improvement in interest rates available for investments resulting from the Federal Reserve responding to increasing inflation and other macroeconomic factors, at this time we do not expect to see material increases in our interest income. Interest expense is derived from our Convertible Notes at a fixed rate.

Other expense, net increased for the year ended December 31, 2022, due primarily to acceleration of amortization related to certain costs associated with capitalized software implementations and related licenses, as well as increased foreign exchange losses associated with the remeasurement of foreign currency transactions into our functional currency of U.S. dollars. These foreign exchange losses were driven primarily by recent volatility in foreign exchange conversion rates associated with the Euro and the British pound sterling.

Liquidity and Capital Resources

	December 31,		
	2022	2021	Change
	(In thousands)		
Cash and cash equivalents	\$ 112,250	\$ 107,068	\$ 5,182
Short-term investments	84,282	241,821	(157,539)
Total cash and cash equivalents and short-term investments	\$ 196,532	\$ 348,889	\$ (152,357)

	Year Ended December 31,		
	2022	2021	Change
	(In thousands)		
Cash used in operating activities	\$ (128,606)	\$ (90,549)	\$ (38,057)
Cash provided by (used in) investing activities	132,497	(220,222)	352,719
Cash provided by financing activities	2,272	6,058	(3,786)
Effect of foreign exchange on cash and cash equivalents	(83)	(67)	(16)
Net increase (decrease) in cash and cash equivalents	\$ 6,080	\$ (304,780)	\$ 310,860

Changes in Cash Flow

Operating Activities

Net cash used in operating activities in 2022 consisted of our net loss of \$159.5 million and net increases in our operating assets and liabilities of \$15.2 million, partially offset by \$46.2 million of net non-cash income and expense items such as stock-based compensation, depreciation and amortization, non-cash operating lease cost, increased provisions for inventory obsolescence and bad debts and amortization of right-of-use assets.

Net cash used in operating activities in 2021 consisted of our net loss of \$115.3 million and net increases in our operating assets and liabilities of \$16.5 million, partially offset by \$41.2 million of net non-cash income and expense items such as stock-based compensation, depreciation and amortization, increased provisions for inventory obsolescence and bad debts and amortization of right-of-use assets.

Investing Activities

Our most significant investing activities for 2022 and 2021 were related to the purchase, maturity and sale of short-term investments. 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 2022 and 2021, we purchased property and equipment totaling \$14.4 million and \$6.3 million, respectively, which we believe will be required to support the growth and expansion of our operations. In addition, in 2022 and 2021, we have invested \$8.0 million and \$2.3 million, respectively, related to the development of software and technology to support AtoMx SIP.

Financing Activities

Net cash provided by financing activities for 2022 and 2021 consisted primarily of \$1.4 million and \$6.5 million, respectively, of net proceeds from the exercise of stock options and other equity awards and \$2.7 million and \$2.4 million, respectively, of net proceeds from the issuance of common stock under our Employee Stock Purchase Plan. These proceeds were partially offset by tax withholdings related to the net settlement of restricted stock units of \$1.5 million and \$2.6 million for 2022 and 2021, respectively.

Short-term Investments

Our cash, cash equivalents, and investments are held in a variety of non-interest bearing bank accounts and interest-bearing instruments subject to investment guidelines allowing for holdings in U.S. government and agency securities, corporate securities, taxable municipal bonds, commercial paper and money market accounts. Our investment portfolio is structured to provide for investment maturities and access to cash to fund our anticipated working capital needs. However, if our liquidity needs should be accelerated for any reason in the near term, or investments do not pay at maturity, we may be required to sell investment securities in our portfolio prior to their scheduled maturities, which may result in a loss.

Convertible Notes

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. 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. 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. We may not redeem the Convertible Notes prior to March 5, 2023, and no sinking fund is provided for the Convertible Notes. 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. See [Note 10. Long-Term Debt](#) of the [Notes to the Consolidated Financial Statements](#) of this report.

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.

Financial Condition

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. As of December 31, 2022, we held cash, cash equivalents and short-term investments of \$196.5 million, compared to \$348.9 million as of December 31, 2021.

We believe our existing cash, cash equivalents and short-term investments, and cash generated from operations will be sufficient to meet these material cash requirements and fund our operating requirements for the next 12 months and beyond, including working capital requirements, capital expenditures and other operational investments.

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: market acceptance and the level of sales of our existing products and new products; the effect of competing technological and market developments; the effectiveness of our commercial sales and field service organizations; 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 impact of, and anticipated cost savings resulting from, our November 2022 reorganization and restructuring initiatives; any new developments relating to the COVID-19 or related pandemic and the impact on our customer and operational activity; 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.

Material Cash Requirements

Our principal uses of cash are funding our operations, capital expenditures, working capital requirements and satisfaction of any outstanding obligations under our debt agreements. Our material cash requirements for fiscal 2023 include non-cancelable purchase commitments for long-lead time inventory, research and development items, software development for internal-use projects and property and equipment; lease payments for office, laboratory and manufacturing space; and interest payments related to our convertible notes.

We expect capital expenditures to increase in fiscal year 2023, as compared to fiscal 2022, primarily related to additional investments we plan to make in support of our manufacturing capacity and efficiency, and in software development for internal-use projects. As of December 31, 2022, we had future long-term interest payment obligations of \$13.1 million, of which \$6.0 million is payable within 12 months and total operating and financing lease obligations of \$29.3 million, of which \$7.1 million is payable within 12 months. In addition, our purchase commitments as of December 31, 2022 are \$70.0 million, of which \$62.1 million is payable within 12 months. We also have non-cancellable construction contracts, associated with one of our Seattle area facilities, of \$5.0 million, which is due within 12 months. See [Note 4. Leases](#), [Note 9. Long-term Debt](#), and [Note 14. Commitments and Contingencies](#) of the [Notes to the Consolidated Financial Statements](#) of this report.

Our material cash requirements may increase in the future as we invest in working capital to support the growth of our spatial biology platforms, research and development related to existing or new product platforms, and manufacturing capacity, 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.

Critical Accounting Policies and 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; and
- income taxes.

Revenue Recognition

We generate the majority of our revenue from sales of products and services. Our products consist of our spatial biology and nCounter Analysis System platforms 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. Such services can also be provided by our distribution partners and other third parties. Performance obligations for consumable products are generally completed upon shipment to the customer.

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 per year 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 each performance obligation's 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.

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.

Stock-based Compensation

We account for stock-based compensation at fair value. Stock-based compensation costs for restricted stock units, or RSUs, and for performance stock units, or PSUs, 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. The percentage achievement and vesting of PSU awards are contingent upon the achievement of predetermined performance goals, which include tiered revenue targets. We record compensation expense over the estimated service period for each performance goal when we believe the performance goal is considered probable, which we assess at each reporting date. Once a performance goal is considered probable, we record compensation expense ratably over the estimated service period. Any updates to our estimates during the service period are recorded cumulatively and remaining compensation expense, if any, is recognized over the remaining estimated service period.

We have transitioned from granting stock options awards to primarily granting RSUs and PSUs, however, we may grant stock options in the future. 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.

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.

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.

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, 2023 and sustained throughout the period ending December 31, 2023, 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, 2022, the fair market value of the Convertible Notes was \$182.9 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 and the British pound sterling. 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 rates, 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

While we have experienced increased operating costs in recent periods, which we believe are due in part to the recent growth in inflation, 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

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Report of 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 sheets of NanoString Technologies, Inc. (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, changes in stockholders' equity and cash flows for each of the three years in the period ended December 31, 2022, 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, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, 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, 2022, 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 February 28, 2023 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 audits. 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 audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of the critical audit matter 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

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.

*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. To test management's determination of relative stand-alone selling price for each distinct performance obligation, our audit procedures included, among others, performing sensitivity analysis, assessing the appropriateness of the methodology applied and testing the reliability and mathematical accuracy of the underlying data and calculations.

/s/ Ernst & Young LLP

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

Seattle, Washington
February 28, 2023

Report of 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, 2022, 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, 2022, 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 consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, changes in stockholders' equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes and our report dated February 28, 2023 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
February 28, 2023

NanoString Technologies, Inc.
Consolidated Balance Sheets

	December 31,	
	2022	2021
	(In thousands, except par value amounts)	
Assets		
Current assets:		
Cash and cash equivalents	\$ 112,250	\$ 107,068
Restricted cash and equivalents	898	—
Short-term investments	84,282	241,821
Accounts receivable, net	31,506	40,130
Inventory, net	43,273	31,486
Prepaid expenses and other	14,565	7,115
Total current assets	286,774	427,620
Property and equipment, net	44,457	27,043
Operating lease right-of-use assets	17,581	19,226
Other assets	4,600	5,592
Total assets	<u>\$ 353,412</u>	<u>\$ 479,481</u>
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 16,619	\$ 14,283
Accrued liabilities	7,884	6,765
Accrued compensation and other employee benefits	17,494	17,466
Customer deposits	1,757	1,278
Deferred revenue and other liabilities, current portion	9,588	7,474
Operating lease liabilities, current portion	5,518	4,889
Total current liabilities	58,860	52,155
Deferred revenue and other liabilities, net of current portion	3,754	3,527
Long-term debt, net	226,622	225,144
Operating lease liabilities, net of current portion	18,362	21,693
Total liabilities	307,598	302,519
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; 46,719 and 45,729 shares issued and outstanding at December 31, 2022 and 2021, respectively	5	5
Additional paid-in-capital	855,694	827,028
Accumulated other comprehensive loss	(589)	(318)
Accumulated deficit	(809,296)	(649,753)
Total stockholders' equity	45,814	176,962
Total liabilities and stockholders' equity	<u>\$ 353,412</u>	<u>\$ 479,481</u>

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

NanoString Technologies, Inc.
Consolidated Statements of Operations

	Years Ended December 31,		
	2022	2021	2020
	(In thousands, except per share amounts)		
Revenue:			
Product	\$ 107,956	\$ 127,462	\$ 97,927
Service and other	19,306	17,623	19,389
Total revenue	127,262	145,085	117,316
Costs and expenses:			
Cost of product revenue	50,204	53,668	45,001
Cost of service and other revenue	15,271	14,636	7,408
Total cost of revenue	65,475	68,304	52,409
Research and development	70,841	69,504	62,857
Selling, general and administrative	143,129	115,503	90,097
Total costs and expenses	279,445	253,311	205,363
Loss from operations	(152,183)	(108,226)	(88,047)
Other income (expense):			
Interest income	2,409	649	1,744
Interest expense	(7,535)	(7,490)	(15,408)
Other expense, net	(1,917)	(20)	(971)
Loss on extinguishment of debt and termination of revolving loan facility	—	—	(7,143)
Total other income (expense), net	(7,043)	(6,861)	(21,778)
Net loss before provision for income taxes	(159,226)	(115,087)	(109,825)
Provision for income taxes	(317)	(167)	(253)
Net loss	\$ (159,543)	\$ (115,254)	\$ (110,078)
Net loss per share—basic and diluted	\$ (3.44)	\$ (2.54)	\$ (2.82)
Weighted average shares used in computing basic and diluted net loss per share	46,406	45,299	39,083

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

NanoString Technologies, Inc.
Consolidated Statements of Comprehensive Loss

	Years Ended December 31,		
	2022	2021	2020
	(In thousands)		
Net loss	\$ (159,543)	\$ (115,254)	\$ (110,078)
Other comprehensive loss:			
Change in unrealized loss on available-for-sale debt securities	(271)	(401)	(62)
Comprehensive loss	<u>\$ (159,814)</u>	<u>\$ (115,655)</u>	<u>\$ (110,140)</u>

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, 2020	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
Common stock issued 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
Cumulative effect of change in accounting ⁽¹⁾	—	—	(58,543)	—	7,531	(51,012)
Common stock issued for stock options and restricted stock units	1,223	1	6,452	—	—	6,453
Tax withholdings related to net share settlements of restricted stock units	—	—	(2,585)	—	—	(2,585)
Common stock issued for employee stock purchase plan	65	—	2,428	—	—	2,428
Stock-based compensation	—	—	30,385	—	—	30,385
Net loss	—	—	—	—	(115,254)	(115,254)
Other comprehensive loss	—	—	—	(401)	—	(401)
Balances at December 31, 2021	45,729	5	827,028	(318)	(649,753)	176,962
Common stock issued for stock options and restricted stock units	840	—	1,440	—	—	1,440
Tax withholdings related to net share settlements of restricted stock units	—	—	(1,504)	—	—	(1,504)
Common stock issued for employee stock purchase plan	150	—	2,669	—	—	2,669
Stock-based compensation	—	—	26,061	—	—	26,061
Net loss	—	—	—	—	(159,543)	(159,543)
Other comprehensive loss	—	—	—	(271)	—	(271)
Balances at December 31, 2022	46,719	\$ 5	\$ 855,694	\$ (589)	\$ (809,296)	\$ 45,814

⁽¹⁾ Effective January 1, 2021, the Company adopted Accounting Standard Update No. 2020-06, Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging — Contracts in Entity's Own Equity (Subtopic 815-40). See Note 2. Basis of Presentation and Summary of Significant Accounting Policies and Note 10. Long-term Debt, Net 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,		
	2022	2021	2020
	(In thousands)		
Operating activities			
Net loss	\$ (159,543)	\$ (115,254)	\$ (110,078)
Adjustments to reconcile net loss to net cash used in operating activities			
Stock-based compensation expense	25,908	30,173	19,374
Depreciation and amortization	8,116	5,871	5,738
Non-cash operating lease cost	4,089	3,450	3,238
Amortization of deferred financing costs	1,477	1,429	8,881
Amortization of premium and accretion of discount on short-term investments, net	1,706	(1,765)	(121)
Provision for inventory obsolescence and bad debt expense (recovery)	4,023	2,040	886
Payment of accrued interest on long-term debt	—	—	(2,593)
Loss on extinguishment of long-term debt	—	—	7,143
Loss on equity securities	—	—	300
Loss on disposal of property and equipment and other assets	847	5	119
Changes in operating assets and liabilities			
Accounts receivable	7,414	(9,526)	(3,949)
Inventory	(15,271)	(10,520)	(4,909)
Prepaid expenses and other assets	(6,942)	(5,443)	4,321
Accounts payable	1,396	8,687	(3,170)
Accrued liabilities	(407)	(914)	(21)
Accrued compensation and other employee benefits	256	2,497	(936)
Customer deposits	479	(353)	(4,758)
Deferred revenue and other liabilities	2,674	3,336	2,033
Operating lease liabilities	(4,828)	(4,262)	(3,160)
Net cash used in operating activities	(128,606)	(90,549)	(81,662)
Investing activities			
Purchases of property and equipment	(14,364)	(6,348)	(7,457)
Purchase of internal-use software assets	(7,952)	(2,299)	—
Purchase of intellectual property	(750)	—	—
Proceeds from sale of short-term investments	7,700	4,000	21,218
Proceeds from maturity of short-term investments	197,363	44,664	116,284
Purchases of short-term investments	(49,500)	(260,239)	(38,804)
Net cash provided by (used in) investing activities	132,497	(220,222)	91,241
Financing activities			
Proceeds from issuance of 2025 convertible senior notes	—	—	230,000
Fees paid for issuance of 2025 convertible senior notes	—	—	(7,403)
Repayment of long-term debt	—	—	(80,000)
Fees paid upon extinguishment of debt	—	—	(4,845)
Proceeds from sale of common stock, net	—	—	215,765
Proceeds from issuance of common stock warrants	—	—	737
Proceeds from issuance of common stock for employee stock purchase plan	2,669	2,427	2,190
Tax withholdings related to net share settlements of restricted stock units	(1,504)	(2,585)	(2,012)
Proceeds from exercise of stock options	1,440	6,452	18,751
Repayment of finance lease obligations	(333)	(236)	(135)
Net cash provided by financing activities	2,272	6,058	373,048
Effect of exchange rate changes on cash, restricted cash and cash equivalents	(83)	(67)	188
Net increase (decrease) in cash, restricted cash and cash equivalents	6,080	(304,780)	382,815
Cash, restricted cash and cash equivalents			
Beginning of year	107,068	411,848	29,033
End of year	\$ 113,148	\$ 107,068	\$ 411,848

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

	December 31,		
	2022	2021	2020
Reconciliation of cash, cash equivalents and restricted cash			
Cash and cash equivalents	\$ 112,250	\$ 107,068	\$ 411,848
Restricted cash and cash equivalents	898	—	—
Total cash, restricted cash and cash equivalents shown in the statement of cash flows	<u>\$ 113,148</u>	<u>\$ 107,068</u>	<u>\$ 411,848</u>

	Years Ended December 31,		
	2022	2021	2020
	(In thousands)		
Supplemental disclosures			
Cash paid for interest	\$ 6,038	\$ 6,038	\$ 4,571
Cash paid for taxes	180	189	357
Instruments reclassified from inventory to property and equipment	665	525	854
Finance lease right-of-use assets obtained in exchange for lease obligations	—	448	524
Operating lease right-of-use assets obtained in exchange for lease obligations	2,126	929	—

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 chemistries enable the direct detection, identification and quantification of individual target molecules in biological samples by attaching unique molecular reporters to each target molecule of interest. The Company currently markets and sells three platforms based on its proprietary technologies, its nCounter Analysis System, its GeoMx Digital Spatial Profiler, or “GeoMx DSP” or “GeoMx”, and CosMx Spatial Molecular Imager, or “CosMx SMI” or “CosMx”, all of which include instruments and consumables, to academic, government, biopharmaceutical, and clinical laboratory customers. The Company also offers AtoMx Spatial Informatics Platform, or “AtoMx SIP” or “AtoMx”, a cloud-based informatics portal for use with GeoMx DSP and CosMx SMI.

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, and Restricted Cash

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. Restricted cash consists of customer deposits which are secured through letters of credit until performance obligations have been met.

Investments

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, 2022. The Company has not experienced any significant investment credit losses to date. Accrued interest receivable is included in prepaid and other current assets and was \$0.9 million and \$0.8 million as of December 31, 2022 and 2021.

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 no customers that represented more than 10% of total revenue for the year ended December 31, 2022. The Company had no customers that represented more than 10% of total revenue for the years ended December 31, 2021 and 2020, respectively. The Company had no customers that represented more than 10% of total accounts receivable as of December 31, 2022 and 2021.

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, raw materials, including certain intermediate manufactured items, 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 \$7.3 million and \$6.5 million as of December 31, 2022 and 2021, 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.

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

Capitalized Internal-Use Software Costs

The Company capitalizes certain development costs incurred in connection with software development for internal-use software platforms used in operations. Costs incurred in the preliminary stages of development are expensed as incurred. Once software has reached the development stage, internal and external costs, if direct, are capitalized until the software is substantially complete and ready for its intended use. Capitalization ceases upon completion of all substantial testing. The Company also capitalizes costs related to specific upgrades and enhancements when it is probable the expenditures will result in additional functionality. Capitalized internal-use software development costs are included in property and equipment and are amortized on a straight-line basis over the estimated useful life of the software platforms and are included in depreciation and amortization expense within operating expenses in our consolidated statements of operations. Unamortized capitalized internal-use software development costs were \$11.8 million and \$4.0 million as of December 31, 2022 and 2021, respectively. Amortization of capitalized internal-use software costs was \$0.3 million for the year ending December 31, 2022.

Capitalized costs associated with the implementation of hosted third-party cloud computing arrangements are recorded as part of current and long-term other assets. Maintenance and training costs are expensed as incurred and are expensed on a straight-line basis over the term of the related hosting arrangement. Costs are recorded within the consolidated statements of operations based on the functional use of the software. Unamortized capitalized software implementation costs were \$1.9 million and \$3.2 million as of December 31, 2022 and 2021, respectively. Amortization and write-down of capitalized software implementation costs of hosted third-party cloud computing arrangements was \$1.3 million and \$0.3 million for the years ending December 2022 and 2021, respectively.

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.

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. The Company has not experienced material impairment losses on its long-lived assets during the periods presented.

Convertible Senior Notes

The Company adopted "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)" ("ASU 2020-06") effective January 1, 2021. The Company uses the if-converted method for purposes of calculating dilutive earnings per share, if the Convertible Notes are dilutive during the period. In connection with the issuance of the Convertible Notes, the Company incurred certain financing costs associated directly with the issuance of the Convertible Notes. These issuance costs were deferred and are amortized to

interest expense over five years 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 has historically generated the majority of its revenue from sales of its proprietary GeoMx DSP system and nCounter Analysis 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 generally recognized 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 each performance obligation's relative stand-alone selling price. The Company frequently sells bundles of systems and consumables and, in such instances, uses its best estimate of selling price for its products based on historical sales or similar products. For service, the best estimate of selling price is based on historical stand-alone sales, as stand-alone sales data for 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.

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 Revenue

Cost of product 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, and packaging and delivery costs. In addition, cost of product 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 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 revenue in the consolidated statements of operations.

Cost of service revenue consists primarily of field service technicians and the cost of providing repair and maintenance services including parts used in performing those services for instruments covered under warranty and service contracts. In addition, cost of service revenue includes lab personnel labor and overhead, stock-based compensation and materials used in performing data analysis services. Cost of service revenue is recognized in the period the services are performed.

Reserve for Product Warranties

The Company generally provides a one-year warranty on both its nCounter Analysis Systems and GeoMx DSP instruments, 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 service revenue in the consolidated statements of operations. Warranty reserves were \$1.0 million and \$1.2 million as of December 31, 2022 and 2021, respectively.

Research and Development

Research and development expenses, consisting primarily of salaries and benefits, stock-based compensation expense, occupancy costs, laboratory supplies, contracted services, and consulting fees 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 \$9.3 million, \$4.8 million and \$3.4 million during the years ended December 31, 2022, 2021 and 2020, 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, 2022, 2021 and 2020, 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 restricted stock units ("RSUs") and performance stock units ("PSUs") which are granted by the Company are calculated using the grant-date fair value using the intrinsic method and for stock options granted in prior years, stock-based compensation was estimated using the Black-Scholes option pricing model. 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, 2022 and 2021.

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.

Reclassifications

Certain prior year amounts related to inventory categories have been reclassified for consistency with the current year presentation. These reclassifications had no effect on the reported results of operations, financial position or cash flows from operations.

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 Spatial Biology and its nCounter Analysis 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. For sales to distributors, their geographic location may be different from the geographic location 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, India and Australia.

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

	2022			
	Americas	Europe and Middle East	Asia Pacific	Total
Product revenue:				
Instruments	\$ 21,989	\$ 9,546	\$ 6,054	\$ 37,589
Consumables	47,566	18,863	3,938	70,367
Total product revenue	69,555	28,409	9,992	107,956
Service and other revenue	13,404	4,812	1,090	19,306
Total revenue	<u>\$ 82,959</u>	<u>\$ 33,221</u>	<u>\$ 11,082</u>	<u>\$ 127,262</u>

	2021			
	Americas	Europe and Middle East	Asia Pacific	Total
Product revenue:				
Instruments	\$ 31,467	\$ 14,837	\$ 9,312	\$ 55,616
Consumables	50,421	16,216	5,209	71,846
Total product revenue	81,888	31,053	14,521	127,462
Service and other revenue	12,472	4,117	1,034	17,623
Total revenue	<u>\$ 94,360</u>	<u>\$ 35,170</u>	<u>\$ 15,555</u>	<u>\$ 145,085</u>

	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 and other revenue	14,849	3,560	980	19,389
Total revenue	<u>\$ 79,787</u>	<u>\$ 26,897</u>	<u>\$ 10,632</u>	<u>\$ 117,316</u>

Total revenue in the United States was \$79.5 million, \$91.0 million and \$77.5 million for the years ended December 31, 2022, 2021 and 2020, respectively. The Company's long-lived assets are primarily located in the United States and not allocated to any specific geographic region.

Contract balances and remaining performance obligations

Contract liabilities are comprised of the current and long-term portions of deferred revenue of \$13.0 million and \$10.3 million as of December 31, 2022 and December 31, 2021, respectively, and customer deposits of \$1.8 million and \$1.3 million as of December 31, 2022 and December 31, 2021, respectively, included within the consolidated balance sheets. Total contract liabilities increased by \$3.2 million for the year ended December 31, 2022 as a result of cash payments received of \$15.2 million related primarily to new instrument service contracts associated with our growing installed base of GeoMx DSP's, substantially offset by the recognition of previously deferred revenue and customer deposits of \$12.0 million for the completion of certain performance obligations during the period. The Company recorded contract assets of \$1.1 million and \$0.7 million as of December 31, 2022 and December 31, 2021 related to revenues recognized, but not yet invoiced to customers. The Company's contractual payment terms for its contracts with customers approximate 45 days on average.

As of December 31, 2022, unsatisfied or partially unsatisfied performance obligations related to undelivered products and service contracts were \$14.8 million and are expected to be completed over the term of the related contract, or as products are delivered.

4. Leases

The Company is obligated to make future minimum payments under five primary operating leases which approximate 162,322 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 2032 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, 2022. 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.

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

	2022	2021
Operating lease cost	\$ 5,572	\$ 5,210
Finance lease cost:		
Amortization of right-of-use assets	319	255
Interest on lease liabilities	20	23
Total lease cost	\$ 5,911	\$ 5,488

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

	2022	2021
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	\$ 6,983	\$ 6,276
Operating cash flows from finance leases	20	23
Financing cash flows from finance leases	333	236
Right-of-use assets obtained in exchange for operating lease liabilities	\$ 2,126	\$ 929
Right-of-use assets obtained in exchange for finance lease liabilities	—	448

Operating Leases

Weighted average remaining lease term (years)	4.8	4.9
Weighted average discount rate	7.3 %	7.0 %

Financing Leases

Weighted average remaining lease term (years)	1.5	1.8
Weighted average discount rate	3.8 %	4.3 %

Future minimum lease payments under the lease agreements as of December 31, 2022 were as follows (in thousands):

	Finance	Operating
2023	\$ 223	\$ 6,844
2024	113	6,899
2025	—	7,079
2026	—	2,211
2027	—	1,317
Thereafter	—	4,660
Total future minimum lease payments	336	29,010
Less: imputed interest	(10)	(5,130)
Total	\$ 326	\$ 23,880

5. 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, 2022	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Corporate debt securities	\$ 62,862	\$ —	\$ (359)	\$ 62,503
U.S. government-related debt securities	22,009	—	(230)	21,779
Total available-for-sale debt securities	\$ 84,871	\$ —	\$ (589)	\$ 84,282

Type of securities as of December 31, 2021	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Corporate debt securities	\$ 177,375	\$ 3	\$ (195)	\$ 177,183
U.S. government-related debt securities	33,134	2	(97)	33,039
Asset-backed securities	31,631	—	(32)	31,599
Total available-for-sale debt securities	\$ 242,140	\$ 5	\$ (324)	\$ 241,821

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

	2022	2021
Maturing in one year or less	\$ 81,004	\$ 174,534
Maturing in one to three years	3,278	67,287
Total available-for-sale debt securities	\$ 84,282	\$ 241,821

The Company has both the intent and ability to sell its available-for-sale debt securities maturing greater than one year within 12 months from the balance sheet date and, accordingly, has classified these securities as current in the consolidated balance sheets.

The following table summarizes investments that have been in a continuous unrealized loss position as of December 31, 2022 (in thousands).

	Less than 12 months		12 months or greater		Total	
	Fair Value	Gross unrealized losses	Fair Value	Gross unrealized losses	Fair Value	Gross unrealized losses
Corporate debt securities	\$ 10,232	\$ (52)	\$ 48,271	\$ (307)	\$ 58,503	\$ (359)
U.S. government-related debt securities	3,988	(16)	17,790	(214)	21,778	(230)
Total	\$ 14,220	\$ (68)	\$ 66,061	\$ (521)	\$ 80,281	\$ (589)

The Company invests in securities that are rated investment grade or better. The unrealized losses on available-for-sale debt securities as of December 31, 2022 were caused primarily by interest rate increases.

The Company reviews the individual securities in its portfolio for impairment when events indicate the fair value of the investments may be below the carrying value. The Company reviews the individual securities in its portfolio for indications that unrealized losses are credit related and require an allowance to be recorded at the present value of the future expected cash flows. The Company determined unrealized losses were not for credit losses and so did not record an allowance related to its available-for-sale debt investments for the year ended December 31, 2022. The Company did not record any impairment charges related to its available-for-sale debt investments for the year ended December 31, 2022.

6. 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):

Type of securities as of December 31, 2022	Fair value measurement using:			
	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market fund	\$ 104,294	\$ —	\$ —	\$ 104,294
Short-term investments:				
Corporate debt securities	—	62,503	—	62,503
U.S. government-related debt securities	—	21,779	—	21,779
Asset-backed securities	—	—	—	—
Total	\$ 104,294	\$ 84,282	\$ —	\$ 188,576

Type of securities as of December 31, 2021	Fair value measurement using:			
	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market fund	\$ 98,247	\$ —	\$ —	\$ 98,247
Short-term investments:				
Corporate debt securities	—	177,183	—	177,183
U.S. government-related debt securities	—	33,039	—	33,039
Asset-backed securities	—	31,599	—	31,599
Total	\$ 98,247	\$ 241,821	\$ —	\$ 340,068

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, 2022, the fair value of the Convertible Senior Notes was \$182.9 million.

7. Inventory, Net

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

	2022	2021
Raw materials	\$ 11,013	\$ 5,985
Intermediate manufactured components	14,715	10,887
Finished goods	17,545	14,614
Total inventory, net	\$ 43,273	\$ 31,486

8. Property and Equipment

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

	Useful Life (Years)	2022	2021
Manufacturing equipment	5	\$ 22,094	\$ 19,067
Prototype instruments	2	10,421	2,128
Capitalized software and computer equipment	3	18,670	5,597
Furniture and fixtures	5	2,153	1,927
Leasehold improvements	Various	20,297	19,641
Construction in progress		7,055	7,143
Total property and equipment, gross		80,690	55,503
Less: Accumulated depreciation and amortization		(36,233)	(28,460)
Total property and equipment, net		\$ 44,457	\$ 27,043

Prototype instruments consist of various CosMx SMI, GeoMx DSP, and nCounter instruments used in internal testing and other development activities. Depreciation and amortization expense related to property and equipment for the years ended December 31, 2022, 2021 and 2020 totaled approximately \$8.1 million, \$5.9 million and \$5.7 million, respectively.

9. 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 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

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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. Debt issuance costs are amortized to interest expense using the effective interest method over five years, the contractual term of the Convertible Notes, with an effective interest rate of 3.3%.

The Company monitors the provision of the Convertible Notes that allow for certain conversion rights at each quarterly reporting date in order to determine whether the Convertible Notes are convertible or subject to an event triggering potential redemption during the prescribed measurement periods. As of the date of this report, none of the outstanding convertible notes had been redeemed by the Company. Based on the closing price of our common stock of \$7.97 on the last trading day of the year, the if-converted values of the Convertible Notes did not exceed the outstanding principal balance as of December 31, 2022.

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

	2022	2021
Outstanding principal of Convertible Note	\$ 230,000	\$ 230,000
Less: unamortized issuance costs	(3,378)	(4,856)
Long-term debt, net	\$ 226,622	\$ 225,144

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

	2022	2021	2020
Contractual interest expense	\$ 6,038	\$ 6,038	\$ 4,897
Amortization of issuance costs	1,477	1,429	8,650
Total interest expense	\$ 7,515	\$ 7,467	\$ 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 Company borrowed a total of \$80.0 million under the 2018 Term Loan. 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. The termination was 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 2018 Term Loan 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.

Total interest expense for the Company's long-term debt was \$7.5 million, \$7.5 million and \$15.4 million for the years ended December 31, 2022, 2021 and 2020, respectively.

10. Common Stock and Preferred Stock

Public Offerings

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, 2022, 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, 2022, there were 470,510 common stock warrants outstanding with a weighted average exercise price of \$24.70 per share and expiration dates in 2025.

11. Stock-based Compensation

Equity Plans

The Company's 2013 Equity Incentive Plan, 2018 Inducement Equity Incentive Plan, and the 2022 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, 2022, there were 15,057,772 shares authorized under the Plans. The Company has also granted RSUs that include service or service and certain performance conditions, or performance stock units ("PSUs"). 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 PSUs, the number of PSUs 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

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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.

Restricted Stock Unit (RSU) and Performance Stock Unit (PSU) Activity

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

Non-vested RSUs and PSUs	Share Equivalent	Weighted-Average Grant Date Fair Value	Weighted-average remaining contractual term (in years)	Aggregate intrinsic value (in thousands)
Non-vested at January 1, 2022	1,333,215	\$ 41.32	2.0	\$ 56,302
Changes during the year:				
Granted	2,067,562	24.78		
Vested	(759,305)	34.25		
Forfeited	(260,850)	36.05		
Non-vested at December 31, 2022	2,380,622	\$ 29.93	2.0	\$ 19,031

The grant-date fair value of the RSUs and PSUs is determined based on the closing price of the Company's common stock on the date of grant. The fair value of vested RSUs and PSUs was \$18.6 million, \$11.7 million and \$7.0 million for the years ended December 31, 2022, 2021 and 2020, respectively. The intrinsic value of vested RSUs and PSUs was \$20.1 million, \$44.5 million and \$12.5 million for the years ended December 31, 2022, 2021 and 2020, respectively.

During 2021 and 2020, the Company modified certain performance conditions of its PSUs for approximately 10 employees in each year which were originally granted in 2020 and 2019. These stock award modifications resulted in incremental stock-based compensation expense of \$3.0 million, and \$4.7 million for 2021 and 2020, respectively, recognized from the date of the modification over the remaining vesting period of the awards, adjusted for performance conditions and forfeitures.

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, 2022	2,017,791	\$ 16.93	5.3	\$ 51,105
Canceled and forfeited	(122,304)	21.60		
Exercised	(128,627)	11.23		
Outstanding at December 31, 2022	1,766,860	\$ 17.01	4.1	\$ 265
December 31, 2022:				
Options vested and expected to vest	1,766,860	\$ 17.01	4.1	\$ 265
Options exercisable	1,682,399	\$ 16.65	3.9	\$ 265

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 was \$18.89 for the year ended December 31, 2020. 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, 2022. The aggregate intrinsic value of options exercised was \$2.3 million, \$26.9 million, and \$39.9 million during 2022, 2021, and 2020, respectively, determined as of the option exercise date. The fair value of options vested was \$2.2 million, \$3.7 million and \$4.2 million for the years ended December 31, 2022, 2021 and 2020, respectively.

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The following table summarizes information about the Company's stock options outstanding at December 31, 2022:

Exercise Price	Outstanding		Exercisable	
	Number of Shares	Weighted-Average Remaining Contractual Life in Years	Number of Shares	Weighted-Average Remaining Contractual Life in Years
\$1.92 – \$12.56	299,786	4.5	296,765	4.4
\$12.77 – \$14.99	465,815	2.6	465,681	2.6
\$15.21 – \$18.55	232,108	2.5	224,001	2.2
\$18.68 – \$22.71	297,348	4.6	278,562	4.4
\$23.00 – \$66.91	471,803	5.8	417,390	5.7
	<u>1,766,860</u>		<u>1,682,399</u>	

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 (in thousands):

	2022	2021	2020
Cost of revenue	\$ 2,397	\$ 1,870	\$ 983
Research and development	5,972	5,723	3,864
Selling, general and administrative	15,330	21,270	13,643
Total stock-based compensation expense	<u>\$ 23,699</u>	<u>\$ 28,863</u>	<u>\$ 18,490</u>

As of December 31, 2022, total unrecognized stock-based compensation cost related to non-vested options and RSUs was \$36.7 million for awards with a service component and \$0.1 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 approximately 2.0 years, for stock awards with a service component, and less than one year 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 Company grants RSUs to employees, directors and consultants and PSUs to employees and values these awards based on the grant date fair value, using the closing stock price of the Company's shares on the date of the grant. Stock-based compensation expense is recognized based on awards ultimately expected to vest using actual forfeitures when incurred. The percentage achievement and vesting of PSU awards are contingent upon the achievement of predetermined tiered revenue performance goals. The Company assesses the probability of the awards expected to vest, based on the performance goals, and if probable, records compensation expense over the estimated service period. Updates to the expected probability are recorded cumulatively and remaining compensation expense, if any, is recognized over the remaining estimated service period.

Prior to January 1, 2021, the company granted stock options to employees, directors and consultants. 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
Risk-free interest rates	0.54% — 1.69%
Expected term (years)	6.08 — 6.08
Expected dividend yield	—%
Expected volatility	53.0% — 59.6%

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 2022, 2021 and 2020, shares issued under the ESPP were 150,341, 64,809 and 89,477, respectively. The Company recorded share-based compensation expense for shares issued from the ESPP of \$2.2 million, \$1.3 million and \$0.9 million for the years ended December 31, 2022, 2021 and 2020, respectively. A total of 2,204,647 shares of common stock have been reserved for issuance under the ESPP, of which 883,793 shares were available for issuance as of December 31, 2022.

12. 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 \$2.4 million, \$2.0 million and \$1.7 million for the years ended December 31, 2022, 2021 and 2020, respectively.

13. Income Taxes

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

	2022	2021	2020
Domestic	\$ (160,542)	\$ (116,178)	\$ (111,101)
Foreign	1,316	1,091	1,276
Loss before income taxes	<u>\$ (159,226)</u>	<u>\$ (115,087)</u>	<u>\$ (109,825)</u>

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

	2022	2021	2020
Current:			
Domestic	\$ —	\$ —	\$ —
Foreign	317	167	253
Total provision for income taxes	<u>\$ 317</u>	<u>\$ 167</u>	<u>\$ 253</u>

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):

	2022	2021	2020
Income tax provision at federal statutory rate	\$ (33,706)	\$ (24,168)	\$ (23,063)
Tax on repatriated foreign earnings and other nondeductible items	284	580	348
Section 162(m) limitations	1,265	5,824	5,044
Change in tax credits	(3,501)	(2,514)	3,123
Change in valuation allowance	36,163	36,550	21,766
Changes in federal and state tax rates	2	(110)	586
Stock option exercise windfall	1,758	(9,761)	(7,683)
RTP and other true-ups	1,665	(2,823)	2,461
State and foreign tax, and other	(3,613)	(3,411)	(2,329)
Total provision for income taxes	<u>\$ 317</u>	<u>\$ 167</u>	<u>\$ 253</u>

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At December 31, 2022, for income tax return purposes the Company has gross federal and state NOL carryforwards totaling \$860.1 million and tax credit carryforwards of \$16.2 million. The gross federal NOL carryforwards generated during and after fiscal 2018 totaling \$389.3 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):

	2022	2021
Deferred tax assets:		
Net operating loss carryforwards	\$ 146,108	\$ 131,971
Research and development tax credit carryforwards	15,529	12,028
Section 174 capitalized costs	17,076	—
Operating lease liability	5,736	6,423
Stock-based compensation	6,561	6,287
Foreign tax credit carryforwards	659	659
Accruals and other	12,603	10,139
Total deferred tax assets before allowance	204,272	167,507
Less: Valuation allowance	(198,980)	(162,817)
Deferred tax assets, net	5,292	4,690
Deferred tax liabilities:		
Right of use asset and other	(4,329)	(4,690)
State net operating loss adjustments	(963)	—
Deferred tax liability	(5,292)	(4,690)
Net deferred tax assets and liabilities	\$ —	\$ —

Certain of the amounts in the income tax rate table and deferred tax assets tables above reflect reclassifications of prior year items to conform to the current year presentation.

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):

	2022	2021	2020
Balance at beginning of year	\$ 162,817	\$ 114,335	\$ 106,438
Impact of adoption of ASU 2020-06 on debt discount (equity component) deferred tax liability	—	11,932	—
Charged to costs and expenses	36,165	36,440	8,483
Impact of change in tax rate	(2)	110	(586)
Balance at end of year	\$ 198,980	\$ 162,817	\$ 114,335

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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):

	2022	2021	2020
Unrecognized tax benefits at beginning of year	\$ 10,009	\$ 9,171	\$ 4,212
Additions based on current year tax positions	1,167	838	4,959
Unrecognized tax benefits at end of year	\$ 11,176	\$ 10,009	\$ 9,171

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 2022, 2021 or 2020 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.

14. Commitments and Contingencies

Liabilities for loss contingencies arising from claims, assessments, litigation, fines, and penalties and other sources are recorded when it is probable that a liability has been incurred and the amount can be reasonably estimated. Legal costs incurred in connection with loss contingencies are expensed as incurred.

10x Genomics

On May 6, 2021, 10x Genomics, Inc. and Prognosys Biosciences, Inc., or "Prognosys", filed a complaint, and on May 19, 2021, an amended complaint, and on May 4, 2022, a second amended complaint, against the Company in the U.S. District Court for the District of Delaware. The amended complaint alleges that certain of the Company's products, services and components sold by the Company for use in connection with its GeoMx DSP system (the "Identified GeoMx Products") infringe seven patents owned by Prognosys: (a) U.S. Patent No. 10,472,669, "Spatially encoded biological assays," (b) U.S. Patent No. 10,961,566, "Spatially encoded biological assays," (c) U.S. Patent No. 10,983,113, "Spatially encoded biological assays," (d) U.S. Patent No. 10,996,219, "Spatially encoded biological assays," (e) U.S. Patent No. 11,001,878, "Spatially encoded biological assays," (f) U.S. Patent No. 11,008,607, "Spatially encoded biological assays," and (g) U.S. Patent No. 11,293,917, "Systems for analyzing target biological molecules via sample imaging and delivery of probes to substrate well" (the "Asserted Prognosys Patents"). The amended complaint seeks, among other relief, injunctive relief and unspecified damages (including treble damages and attorneys' fees) in relation to the Company's making, using, selling, offering to sell, exporting and/or importing in the United States the Identified GeoMx Products, as well as the alleged infringement by others of the Asserted Prognosys Patents through their use of the Identified GeoMx Products. The Company has evaluated the plaintiffs' claims and does not believe that its activities infringe any patent rights held by the plaintiffs. On November 17, 2021, the Court granted the Company's motion to dismiss the plaintiffs' claims of pre-suit indirect infringement and willful infringement with leave to amend the complaint. Discovery is in progress. A claim construction hearing was held on February 17, 2023. A trial is scheduled for November 2023. The Company intends to vigorously defend itself in this litigation. The Company is unable to estimate a range of loss, if any, that could result were there to be an adverse final decision in this case.

On February 28, 2022, 10x Genomics, Inc. and President and Fellows of Harvard College, or "Harvard", filed a complaint, and on May 12, 2022, an amended complaint, against the Company in the U.S. District Court for the District of Delaware. The complaint alleges that certain of the Company's products, services and components sold by it for use in connection with its CosMx SMI system (the "Identified CosMx Products") infringe five patents owned by Harvard: (a) U.S. Patent No. 10,227,639, "Compositions and Methods for Analyte Detection," and (b) U.S. Patent No. 11,021,737, "Compositions and Methods for Analyte Detection," (c) U.S. Patent No. 11,293,051, "Compositions and Methods for Analyte Detection", (d) U.S. Patent No. 11,293,052, "Compositions and Methods for Analyte Detection," and (e) U.S. Patent No. 11,293,054, "Compositions and Methods for Analyte Detection" (the "U.S. 10x CosMx Case"). The complaint seeks, among other relief, injunctive relief and unspecified damages (including attorneys' fees) in relation to the Company's making, using, selling, offering to sell, exporting and/or importing in the United States the Identified CosMx Products. The Company has evaluated the plaintiffs' claims and does not believe that its activities infringe any patent rights held by the plaintiffs. Discovery is in progress. A claim construction hearing is scheduled for July 2023 and a trial is scheduled for June 2024. The Company intends to vigorously defend itself in this litigation. The Company is unable to estimate a range of loss, if any, that could result were there to be an adverse final decision in this case. On August 16, 2022, the Company filed counterclaims in this action alleging that 10x Genomics' Visium Spatial Gene Expression system and related products and services infringe the Company's U.S. Patent No. 11,377,689, "Chemical Compositions and Uses Thereof." On January 24, 2023, these counterclaims were consolidated with the claims of a separate patent infringement case that the Company filed against 10x Genomics on October 20, 2022, as discussed below.

On May 9, 2022, the Company was notified of a complaint, dated March 4, 2022, naming the Company and its wholly-owned subsidiary, NanoString Technologies Germany GmbH, which 10x Genomics, Inc. filed in the Munich Regional Court I in Germany, alleging that the Company's CosMx SMI system and associated products and services infringe European Patent No. 2794928B1, or "EP 2794928B1", which is owned by Harvard. The complaint seeks, among other relief, injunctive relief and damages in relation to the Company's selling and offering to sell its CosMx SMI system and associated products and services in Germany. The Company has evaluated the claims and does not believe that its activities infringe any patent rights held by 10x or Harvard. A hearing is scheduled for March 2023 in this proceeding. The Company intends to vigorously defend itself in this litigation. The Company is unable to estimate a range of loss, if any, that could result were there to be an adverse final decision in this case. On July 29, 2022, the Company, through its German subsidiary, filed a nullity action with the German Federal Patent Court in Munich requesting a judgment that EP 2794928B1, as in effect for Germany, be declared invalid and be revoked in its entirety. On February 10, 2023, the German Federal Patent Court issued a preliminary and non-binding opinion in this nullity action finding that the subject matter of the asserted independent claim 1 of EP 2794928B1 potentially lacked novelty and lacked an inventive step over prior art. The preliminary opinion further addressed Harvard's seven patent claim limitation requests, referred to as auxiliary requests, which 10x and Harvard seek to have applied in the event that claim 1 of EP 2794928B1, as granted, proves not to be protectable. The preliminary opinion stated that the claim limitations in Auxiliary Request 1 could potentially be used to defend EP 2794928B1 over the cited prior art. The preliminary opinion further stated that Harvard would potentially not be able to use Auxiliary Requests 2 through 7 to establish novelty over the prior art. A hearing before the German Federal Patent Court is scheduled for May 2024 and a decision in the nullity action is expected following the hearing.

On October 20, 2022, the Company filed suit against 10x Genomics, Inc. in the U.S. District Court for the District of Delaware alleging that 10x Genomics' Visium Spatial Gene Expression system and related products and services infringe the Company's U.S. Patent No. 11,473,142, "Chemical Compositions and Uses Thereof." On January 24, 2023, the Company's claims from the U.S. 10x CosMx Case with respect to U.S. Patent No. 11,377,689 were consolidated with the claims in this action. The Company seeks, among other relief, injunctive relief and unspecified damages (including attorneys' fees) in relation to 10x Genomics' making, using, selling, offering to sell, exporting and/or importing in the United States the Visium system and related products and services. Discovery is in progress. A case schedule has not yet been set.

Contingencies

Other than the pending litigations with 10x Genomics and its co-plaintiffs, the Company is not engaged in any material legal proceedings. The Company is involved in other legal proceedings from time to time arising in the normal 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 the outcome of these proceedings and any amounts that may become payable to certain taxing authorities will not have a material impact on the Company's financial condition, results of operations, or liquidity.

Purchase Commitments

At December 31, 2022 the Company has non-cancellable purchase obligations of \$70.0 million related to binding commitments to purchase inventory and other research and development items, \$62.1 million of which is due within the next 12 months. In addition, the Company has construction contracts, associated with one of its Seattle area facilities, of \$5.0 million, which is due within the next 12 months.

15. 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. 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):

	2022	2021	2020
Options to purchase common stock	1,837	2,271	3,379
Restricted stock units	1,920	1,344	1,574
Common stock warrants	471	471	508

16. Subsequent Events

In February 2023, the Company's board of directors approved an amendment to the 2018 Inducement Equity Incentive Plan to increase the number of shares of the Company's common stock available for issuance under the plan for equity awards granted from 250,000 shares to 425,000 shares.

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, 2022, 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, 2022, our Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2022, 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, 2022. 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, 2022.

The effectiveness of our internal control over financial reporting as of December 31, 2022 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.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the three months ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

On February 27, 2023, our board of directors approved an amendment to the 2018 Inducement Equity Incentive Plan to increase the number of shares of the Company's common stock available for issuance pursuant to equity awards granted under the Inducement Plan from 250,000 shares to 425,000 shares.

The amendment to the Inducement Plan was adopted without stockholder approval pursuant to the applicable Nasdaq Listing Rules. The 2018 Inducement Equity Incentive Plan, as amended, 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 the Company's 2022 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 2018 Inducement Equity Incentive Plan, but with such other terms and conditions intended to comply with the Nasdaq inducement award exception.

In accordance with the Nasdaq Listing Rules, awards under the 2018 Inducement Equity Incentive Plan, as amended, may only be made to individuals not previously employees or non-employee directors of the Company (or following such individuals' bona fide period of non-employment with the Company), as an inducement material to the individuals' entry into employment with the Company.

A copy of the 2018 Inducement Equity Incentive Plan, as amended, and related form agreements thereunder are attached as [Exhibit 10.8](#), [Exhibit 10.9](#), and [Exhibit 10.10](#) hereto and incorporated by reference herein. The above description of the Inducement Plan, as amended, does not purport to be complete and is qualified in its entirety by reference to such exhibit.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

We maintain a Code of Business Conduct that is applicable to all NanoString employees, including all directors and executive officers. Our Code of Business Conduct is published on our Investors website at <https://investors.nanostring.com/home/default.aspx> under "Governance Documents." We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding amendments to, or waiver from, a provision of the Company's Code of Business Conduct by posting such information on the website address and location specified above.

The information required by Item 10 of Form 10-K is incorporated by reference to our Proxy Statement for the 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2022.

Item 11. Executive Compensation

The information required by Item 11 of Form 10-K is incorporated by reference to our Proxy Statement for the 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2022.

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 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2022.

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 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2022.

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 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days after the end of the fiscal year ended December 31, 2022.

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	Form	Incorporated by Reference		Filed Herewith
			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.	8-K	January 27, 2023	3.1	
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 L.P., and CRG Servicing LLC.	10-K	March 11, 2019	4.3	
4.3	Description of Capital Stock.				X
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 4.4)	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+	2013 Equity Incentive Plan.	S-1/A	June 13, 2013	10.5	
10.3+	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	
10.4+	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	

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Exhibit Number	Description	Form	Incorporated by Reference		Filed Herewith
			Filing Date	Exhibit	
10.5+	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	
10.6+	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	
10.7+	2013 Employee Stock Purchase Plan.	S-1/A	June 13, 2013	10.9	
10.8+	2018 Inducement Equity Incentive Plan, as amended.				X
10.9+	Form of RSU Agreement under the 2018 Inducement Equity Incentive Plan.				X
10.10+	Form of Stock Option Agreement under the 2018 Inducement Equity Incentive Plan.				X
10.11+	2022 Equity Incentive Plan.	8-K	June 17, 2022	10.1	
10.12+	Form of Stock Option Agreement under the 2022 Equity Incentive Plan.	8-K	June 17, 2022	10.2	
10.13+	Form of Restricted Stock Unit Agreement under the 2022 Equity Incentive Plan.	8-K	June 17, 2022	10.3	
10.14+	Form of Performance-Based Restricted Stock Unit Agreement under the 2022 Equity Incentive Plan.	8-K	June 17, 2022	10.4	
10.15+	Employment Agreement, dated May 24, 2010, between the Registrant and R. Bradley Gray.	S-1	May 20, 2013	10.8	
10.16+	Amendment to Employment Agreement, dated August 4, 2017, between the Registrant and R. Bradley Gray.	10-Q	August 9, 2017	10.1	
10.17+	Amendment to Employment Agreement dated February 28, 2020, between the Registrant and R. Bradley Gray.	10-K	March 2, 2020	10.14	
10.18+	Employment Agreement, dated March 31, 2012, between the Registrant and Joseph Beechem, as amended on December 27, 2012.	S-1	January 13, 2014	10.12	
10.19+	Amendment to Employment Agreement, dated December 27, 2012, between the Registrant and Joseph Beechem.	10-K	March 7, 2018	10.17	
10.20+	Amendment to Employment Agreement, dated November 7, 2017, between the Registrant and Joseph Beechem.	10-K	March 7, 2018	10.18	
10.21+	Amendment to Employment Agreement dated February 27, 2020, between the Registrant and Joseph Beechem.	10-K	March 2, 2020	10.21	
10.22+	Employment Agreement, dated October 17, 2017, between the Registrant and J. Chad Brown.	10-K	March 7, 2018	10.19	
10.23+	Amendment to Employment Agreement dated February 19, 2020, between the Registrant and J. Chad Brown.	10-K	March 2, 2020	10.23	
10.24+	Transition Agreement and Release dated January 7, 2022, between the Registrant and J. Chad Brown.	10-K	March 1, 2022	10.21	
10.25+	Employment Agreement, dated January 16, 2018, between the Registrant and K. Thomas Bailey.	10-K	March 7, 2018	10.20	
10.26+	Amendment to Employment Agreement dated February 19, 2020, between the Registrant and K. Thomas Bailey.	10-K	March 2, 2020	10.25	
10.27+	Employment Agreement dated January 6, 2022, between the Registrant and John Gerace.	10-K	March 1, 2022	10.24	

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Exhibit Number	Description	Form	Incorporated by Reference		Filed Herewith
			Filing Date	Exhibit	
10.28	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	
10.29	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	
10.30	Lease between the Registrant and BMR-500 Fairview Avenue LLC, dated December 22, 2014.	10-K	March 13, 2015	10.15	
10.31	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	
10.32	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	
10.33	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	
10.34	Amendment No. 3 to Office Lease Agreement between the Registrant and Blume Roy Building LLC, dated July 20, 2021.	10-K	March 1, 2022	10.31	
10.35††	Exclusive License Agreement, dated February 4, 2004, between the Registrant and The Institute for Systems Biology.	10-Q	May 10, 2022	10.3	
10.36††	Amendment No. 1 to Exclusive License Agreement, dated February 5, 2007, between the Registrant and The Institute for Systems Biology.	10-Q	May 10, 2022	10.4	
10.37	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	
10.38††	Collaboration Agreement, dated August 4, 2017, between the Registrant and Lam Research Corporation.	10-Q	November 8, 2017	10.1	
10.39†	Amendment #1 to Collaboration Agreement, effective May 28, 2019, between Registrant and Lam Research Corporation.	10-K	March 2, 2020	10.40	
21.1	List of subsidiaries of the Registrant.	10-K	March 1, 2022	21.1	
23.1	Consent of 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

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Exhibit Number	Description	Form	Incorporated by Reference		Filed Herewith
			Filing Date	Number	
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: February 28, 2023

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
<u>/s/ R. Bradley Gray</u> R. Bradley Gray	President, Chief Executive Officer and Director (Principal Executive Officer)	February 28, 2023
<u>/s/ K. Thomas Bailey</u> K. Thomas Bailey	Chief Financial Officer (Principal Accounting and Financial Officer)	February 28, 2023
<u>/s/ William D. Young</u> William D. Young	Chairman of the Board of Directors	February 28, 2023
<u>/s/ Elisha W. Finney</u> Elisha W. Finney	Director	February 28, 2023
<u>/s/ Teresa Foy</u> Teresa Foy	Director	February 28, 2023
<u>/s/ Janet George</u> Janet George	Director	February 28, 2023
<u>/s/ Kirk D. Malloy</u> Kirk D. Malloy	Director	February 28, 2023
<u>/s/ Gregory Norden</u> Gregory Norden	Director	February 28, 2023
<u>/s/ Dana Rollison</u> Dana Rollison	Director	February 28, 2023
<u>/s/ Charles P. Waite</u> Charles P. Waite	Director	February 28, 2023

**DESCRIPTION OF THE REGISTRANT'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

As of December 31, 2022, NanoString Technologies, Inc. (the "Company") had one class of securities, our common stock, registered under Section 12 of the Securities Exchange Act of 1934, as amended. These securities are listed on the Nasdaq Global Market under the symbol "NSTG."

Our authorized capital stock consists of 150,000,000 shares of common stock, par value \$0.0001 per share, and 15,000,000 shares of preferred stock, par value \$0.0001 per share.

Common Stock

The following is a summary of the rights of our capital stock. This summary is not complete. For more detailed information, please see our certificate of incorporation and bylaws, both filed as exhibits to our annual report on Form 10-K for the period ended December 31, 2022, and to the applicable provisions of Delaware and Washington law.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of common stock are entitled to receive dividends, if any, as may be declared from time to time by the board of directors out of legally available funds.

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Our certificate of incorporation and bylaws do not provide for cumulative voting rights. Because of this, the holders of a plurality of the shares of common stock entitled to vote in any election of directors can elect all of the directors standing for election, if they should so choose. With respect to matters other than the election of directors, at any meeting of the stockholders at which a quorum is present or represented, the affirmative vote of a majority of the voting power of the shares present in person or represented by proxy at such meeting and entitled to vote on the subject matter shall be the act of the stockholders, except as otherwise provided by law, our certificate of incorporation, our bylaws or the rules of any applicable stock exchange on which our securities are listed. The holders of a majority of the voting power of the capital stock issued and outstanding and entitled to vote, present in person or represented by proxy, shall constitute a quorum for the transaction of business at all meetings of the stockholders, unless otherwise required by law, our certificate of incorporation, our bylaws or the rules of any applicable stock exchange on which our securities are listed.

Liquidation

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

Rights and Preferences

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

Fully Paid and Nonassessable

All of our outstanding shares of common stock are fully paid and nonassessable.

Preferred Stock

Our board of directors has the authority, without further action by the stockholders, 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 our control or other corporate action.

Anti-Takeover Effects of Delaware and Washington Law and Our Certificate of Incorporation and Bylaws

Delaware Law

We are subject to Section 203 of the Delaware General Corporation Law. Section 203 generally prohibits a publicly held Delaware corporation from engaging in a “business combination” with any “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to such time the business combination is approved by the board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation, or any direct or indirect majority-owned subsidiary of the corporation, and the interested stockholder or any other entity if the merger or consolidation is caused by the interested stockholder;
- any sale, lease, exchange, mortgage, transfer, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation or any direct or indirect majority-owned subsidiary of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation, or any direct or indirect majority-owned subsidiary of the corporation, to the interested stockholder;
- subject to exceptions, any transaction involving the corporation, or any direct or indirect majority-owned subsidiary of the corporation, that has the effect of increasing the proportionate share of the stock or any class or series of the corporation or such subsidiary beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

These provisions may have the effect of delaying, deferring or preventing changes in control in the Company.

Washington Business Corporation Act

The laws of Washington, where our principal executive offices are located, impose restrictions on certain transactions between certain foreign corporations and significant stockholders. In particular, the Washington Business Corporation Act, or WBCA, prohibits a “target corporation,” with certain exceptions, from engaging in certain “significant business transactions” with a person or group of persons which beneficially owns 10% or more of the voting securities of the target corporation, an “acquiring person,” for a period of five years after such acquisition, unless the transaction or acquisition of shares is approved by a majority of the members of the target corporation’s board of directors prior to the time of acquisition. Such prohibited transactions may include, among other things:

- any merger or consolidation with, disposition of assets to, or issuance or redemption of stock to or from, the acquiring person;
 - any termination of 5% or more of the employees of the target corporation as a result of the acquiring person’s acquisition of 10% or more of the shares;
 - allowing the acquiring person to receive any disproportionate benefit as a stockholder; and
-

- liquidating or dissolving the target corporation.

After the five-year period, a significant business transaction may take place as long as it complies with certain fair price provisions of the statute or is approved at an annual or special meeting of stockholders.

We will be considered a “target corporation” so long as our principal executive office is located in Washington, and: (1) a majority of our employees are residents of the state of Washington or we employ more than one thousand residents of the state of Washington; (2) a majority of our tangible assets, measured by market value, are located in the state of Washington or we have more than \$50 million worth of tangible assets located in the state of Washington; and (3) any one of the following: (a) more than 10% of our stockholders of record are resident in the state of Washington; (b) more than 10% of our shares are owned of record by state residents; or (c) 1,000 or more of our stockholders of record are resident in the state.

If we meet the definition of a target corporation, the WBCA may have the effect of delaying, deferring or preventing a change of control.

Certificate of Incorporation and Bylaws

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 common stock. Among other things, our 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, including the right to approve an acquisition or other change in our control;
- provide that the authorized number of directors may be changed only by resolution of the board of directors adopted by a majority of the total authorized number 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 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 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 also meet specific requirements as to the form and content of a stockholder’s notice;
- not provide for 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 pursuant to a resolution adopted by a majority of the total number of authorized directors; and
- provide that stockholders are permitted to amend the bylaws only upon receiving at least two-thirds of the 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.

The amendment of any of these provisions requires approval by the holders of at least two-thirds of our outstanding common stock, voting as a single class.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC. The transfer agent and registrar’s address is 6201 15th Avenue, Brooklyn, New York 11219.

**NANOSTRING TECHNOLOGIES, INC.
2018 INDUCEMENT EQUITY INCENTIVE PLAN**

1. Purposes of the Plan. The purposes of this Plan are to attract and retain the best available personnel for positions of substantial responsibility by providing an inducement material to individuals entering into employment with the Company or any Parent or Subsidiary of the Company.

The Plan permits the grant of Nonstatutory Stock Options, Restricted Stock, Restricted Stock Units, Stock Appreciation Rights, Performance Units and Performance Shares. Each Award under the Plan is intended to qualify as an employment inducement award under NASDAQ Listing Rule 5635(c)(4) and the official regulations thereunder (together, the “Inducement Listing Rule”).

2. Definitions. As used herein, the following definitions will apply:

(a) “Administrator” means the Board or any of its Committees as will be administering the Plan, in accordance with Section 4 of the Plan.

(b) “Applicable Laws” means the legal and regulatory requirements relating to the administration of equity-based awards, including but not limited to, under U.S. state corporate laws, U.S. federal and state securities laws, the Code, any stock exchange or quotation system on which the Common Stock is listed or quoted and the applicable laws of any foreign country or jurisdiction where Awards are, or will be, granted under the Plan.

(c) “Award” means, individually or collectively, a grant under the Plan of Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units, Performance Units or Performance Shares.

(d) “Award Agreement” means the written or electronic agreement setting forth the terms and provisions applicable to each Award granted under the Plan. The Award Agreement is subject to the terms and conditions of the Plan.

(e) “Board” means the Board of Directors of the Company.

(f) “Change in Control” means the occurrence of any of the following events:

(i) A change in the ownership of the Company which occurs on the date that any one person, or more than one person acting as a group (“Person”), acquires ownership of the stock of the Company that, together with the stock held by such Person, constitutes more than fifty percent (50%) of the total voting power of the stock of the Company; provided, however, that for purposes of this subsection, the acquisition of additional stock by any one Person, who is considered to own more than fifty percent (50%) of the total voting power of the stock of the Company will not be considered a Change in Control; or

(ii) A change in the effective control of the Company which occurs on the date that a majority of members of the Board is replaced during any twelve (12) month period by Directors whose appointment or election is not endorsed by a majority of the members of the Board prior to the date of the appointment or election. For purposes of this clause (ii), if any Person is considered to be in effective control of the Company, the acquisition of additional control of the Company by the same Person will not be considered a Change in Control; or

(iii) A change in the ownership of a substantial portion of the Company’s assets which occurs on the date that any Person acquires (or has acquired during the twelve (12) month period ending on the date of the most recent acquisition by such person or persons) assets from the Company that have a total gross fair market value equal to or more than fifty percent (50%) of the total gross fair market value of all of the assets of the Company immediately prior to such acquisition or acquisitions; provided, however, that for purposes of this subsection (iii), the following will not constitute a change in the ownership of a substantial portion of the Company’s assets: (A) a transfer to an entity that is controlled by the Company’s stockholders immediately after the transfer, or (B) a transfer of assets by the Company to: (1) a stockholder of the Company (immediately before the asset transfer) in exchange for or with respect to the Company’s stock, (2) an entity, fifty percent (50%) or more of the total value or voting power of which is owned, directly or indirectly, by the Company, (3) a Person, that owns, directly or indirectly, fifty percent (50%) or more of the total value or voting power of all the outstanding stock of the Company, or (4) an entity, at least fifty percent (50%) of the total value or voting power of which is owned, directly or indirectly, by a Person described in this subsection (iii)(B)(3). For purposes of this subsection (iii), gross fair market value means the value of the assets of the Company, or the value of the assets being disposed of, determined without regard to any liabilities associated with such assets.

For purposes of this definition, persons will be considered to be acting as a group if they are owners of a corporation that enters into a merger, consolidation, purchase or acquisition of stock, or similar business transaction with the Company.

Notwithstanding the foregoing, a transaction will not be deemed a Change in Control unless the transaction qualifies as a change in control event within the meaning of Code Section 409A, as it has been and may be amended from time to time, and any proposed or final Treasury Regulations and Internal Revenue Service guidance that has been promulgated or may be promulgated thereunder from time to time.

Further and for the avoidance of doubt, a transaction will not constitute a Change in Control if: (i) its sole purpose is to change the state of the Company's incorporation, or (ii) its sole purpose is to create a holding company that will be owned in substantially the same proportions by the persons who held the Company's securities immediately before such transaction.

(g) "Code" means the Internal Revenue Code of 1986, as amended. Reference to a specific section of the Code or regulation thereunder shall include such section or regulation, any valid regulation promulgated under such section, and any comparable provision of any future legislation or regulation amending, supplementing or superseding such section or regulation.

(h) "Committee" means a committee of Directors or of other individuals satisfying Applicable Laws appointed by the Board, or a duly authorized committee of the Board, in accordance with Section 4 hereof.

(i) "Common Stock" means the common stock of the Company.

(j) "Company" means NanoString Technologies, Inc., a Delaware corporation, or any successor thereto.

(k) "Consultant" means any person, including an advisor, engaged by the Company or a Parent or Subsidiary to render services to such entity.

(l) "Director" means a member of the Board.

(m) "Disability" means total and permanent disability as defined in Section 22(e)(3) of the Code, provided that the Administrator in its discretion may determine whether a permanent and total disability exists in accordance with uniform and non-discriminatory standards adopted by the Administrator from time to time.

(n) "Employee" means any person, including Officers and Directors, employed by the Company or any Parent or Subsidiary of the Company. Neither service as a Director nor payment of a director's fee by the Company will be sufficient to constitute "employment" by the Company. However, for the avoidance of doubt, although a person who is an Employee also may be a Director, a person who already is serving as a Director prior to becoming an Employee will not be eligible to be granted an Award under the Plan unless permitted under the Inducement Listing Rule. The Company shall determine in good faith and in the exercise of its discretion whether an individual has become or has ceased to be an Employee and the effective date of such individual's employment or termination of employment, as the case may be. For purposes of an individual's rights, if any, under the Plan as of the time of the Company's determination, all such determinations by the Company shall be final, binding and conclusive, notwithstanding that the Company or any court of law or governmental agency subsequently makes a contrary determination.

(o) "Exchange Act" means the Securities Exchange Act of 1934, as amended.

(p) "Exchange Program" means a program under which (i) outstanding Awards are surrendered or cancelled in exchange for awards of the same type (which may have higher or lower exercise prices and different terms), awards of a different type, and/or cash, (ii) Participants would have the opportunity to transfer any outstanding Awards to a financial institution or other person or entity selected by the Administrator, and/or (iii) the exercise price of an outstanding Award is reduced. Pursuant to the provisions of Section 4, the Administrator may not institute an Exchange Program.

(q) "Fair Market Value" means, as of any date, the value of Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or a national market system, including without limitation the New York Stock Exchange, the NASDAQ Global Select Market, the NASDAQ Global Market or the NASDAQ Capital Market of The NASDAQ Stock Market, its Fair Market Value will be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on such exchange or system on the day of determination, as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable;

(ii) If the Common Stock is regularly quoted by a recognized securities dealer but selling prices are not reported, the Fair Market Value of a Share will be the mean between the high bid and low asked prices for the Common Stock on the date of determination (or, if no bids and asks were reported on that date, as applicable, on the last trading date such bids and asks were reported), as reported in *The Wall Street Journal* or such other source as the Administrator deems reliable; or

(iii) In the absence of an established market for the Common Stock, the Fair Market Value will be determined in good faith by the Administrator.

The determination of fair market value for purposes of tax withholding may be made in the Administrator's discretion subject to Applicable Laws and is not required to be consistent with the determination of Fair Market Value for other purposes.

(r) "Fiscal Year" means the fiscal year of the Company.

(s) "Incentive Stock Option" means an Option that is intended to qualify, and actually qualifies, as an incentive stock option within the meaning of Section 422 of the Code.

(t) "Nonstatutory Stock Option" means an Option that by its terms does not qualify or is not intended to qualify as an Incentive Stock Option.

(u) "Officer" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

(v) "Option" means a stock option granted pursuant to the Plan. All Options granted under the Plan will be Nonstatutory Stock Options.

(w) "Parent" means a "parent corporation," whether now or hereafter existing, as defined in Section 424(e) of the Code.

(x) "Participant" means the holder of an outstanding Award.

(y) "Performance Share" means an Award denominated in Shares which may be earned in whole or in part upon attainment of performance goals or other vesting criteria as the Administrator may determine pursuant to Section 10.

(z) "Performance Unit" means an Award which may be earned in whole or in part upon attainment of performance goals or other vesting criteria as the Administrator may determine and which may be settled for cash, Shares or other securities or a combination of the foregoing pursuant to Section 10.

(aa) "Period of Restriction" means the period during which the transfer of Shares of Restricted Stock are subject to restrictions and therefore, the Shares are subject to a substantial risk of forfeiture. Such restrictions may be based on the passage of time, the achievement of target levels of performance, or the occurrence of other events as determined by the Administrator.

(bb) "Plan" means this 2018 Inducement Equity Incentive Plan.

(cc) "Restricted Stock" means Shares issued pursuant to a Restricted Stock award under Section 7 of the Plan, or issued pursuant to the early exercise of an Option.

(dd) "Restricted Stock Unit" means a bookkeeping entry representing an amount equal to the Fair Market Value of one Share, granted pursuant to Section 8. Each Restricted Stock Unit represents an unfunded and unsecured obligation of the Company.

(ee) "Rule 16b-3" means Rule 16b-3 of the Exchange Act or any successor to Rule 16b-3, as in effect when discretion is being exercised with respect to the Plan.

(ff) "Section 16(b)" means Section 16(b) of the Exchange Act.

(gg) "Service Provider" means an Employee, Director or Consultant.

(hh) "Share" means a share of the Common Stock, as adjusted in accordance with Section 13 of the Plan.

(ii) "Stock Appreciation Right" means an Award, granted alone or in connection with an Option, that pursuant to Section 9 is designated as a Stock Appreciation Right.

(jj) “Subsidiary” means a “subsidiary corporation,” whether now or hereafter existing, as defined in Section 424(f) of the Code.

3. Stock Subject to the Plan.

(a) Stock Subject to the Plan. Subject to the provisions of Section 13 of the Plan, the maximum aggregate number of Shares that may be issued under the Plan is 425,000 Shares. In addition, Shares may become available for issuance under the Plan pursuant to Section 3(b). The Shares may be authorized, but unissued, or reacquired Common Stock.

(b) Lapsed Awards. If an Award expires or becomes unexercisable without having been exercised in full, or, with respect to Restricted Stock, Restricted Stock Units, Performance Units or Performance Shares, is forfeited to, or repurchased by, the Company due to failure to vest, the unpurchased Shares (or for Awards other than Options or Stock Appreciation Rights the forfeited or repurchased Shares), which were subject thereto will become available for future grant or sale under the Plan (unless the Plan has terminated). With respect to Stock Appreciation Rights, only Shares actually issued (i.e., the net Shares issued) pursuant to a Stock Appreciation Right will cease to be available under the Plan; all remaining Shares under Stock Appreciation Rights will remain available for future grant or sale under the Plan (unless the Plan has terminated). Shares that have actually been issued under the Plan under any Award will not be returned to the Plan and will not become available for future distribution under the Plan; provided, however, that if Shares issued pursuant to Awards of Restricted Stock, Restricted Stock Units, Performance Shares or Performance Units are repurchased by the Company or are forfeited to the Company, such Shares will become available for future grant under the Plan. Shares used to pay the exercise price of an Award or to satisfy the tax withholding obligations related to an Award will become available for future grant or sale under the Plan. To the extent an Award under the Plan is paid out in cash rather than Shares, such cash payment will not result in reducing the number of Shares available for issuance under the Plan.

(c) Share Reserve. The Company, during the term of this Plan, will at all times reserve and keep available such number of Shares as will be sufficient to satisfy the requirements of the Plan.

4. Administration of the Plan.

(a) Procedure.

(i) Multiple Administrative Bodies. Different Committees with respect to different groups of Employees or Participants may administer the Plan.

(ii) Rule 16b-3. To the extent desirable to qualify transactions hereunder as exempt under Rule 16b-3, the transactions contemplated hereunder will be structured to satisfy the requirements for exemption under Rule 16b-3.

(iii) Other Administration. Other than as provided above, the Plan will be administered by (A) the Board or (B) a Committee, which committee will be constituted to satisfy Applicable Laws. Until and unless determined otherwise by the Board, the Compensation Committee of the Board will have full authority to act as Administrator.

(iv) Approval. Awards granted under the Plan must be approved by a majority of the Company’s “Independent Directors” (as defined under the NASDAQ Listing Rules) or the Compensation Committee of the Board, in each case acting as the Administrator.

(v) Delegation of Authority for Day-to-Day Administration. Except to the extent prohibited by Applicable Law and except to the extent provided by subsection 4(a)(iv), the Administrator may delegate to one or more individuals the day-to-day administration of the Plan and any of the functions assigned to it in this Plan. Such delegation may be revoked at any time.

(b) Powers of the Administrator. Subject to the provisions of the Plan, and in the case of a Committee, subject to the specific duties delegated by the Board to such Committee, the Administrator will have the authority, in its discretion:

(i) to determine the Fair Market Value;

(ii) to select the individuals to whom Awards may be granted hereunder, subject to Section 5 (which Awards will be intended as a material inducement to the individual becoming an Employee);

(iii) to determine the number of Shares to be covered by each Award granted hereunder;

(iv) to approve forms of Award Agreements for use under the Plan;

(v) to determine the terms and conditions, not inconsistent with the terms of the Plan, of any Award granted hereunder. Such terms and conditions include, but are not limited to, the exercise price, the time or times when Awards may be exercised (which may be based on performance criteria), any vesting acceleration or waiver of forfeiture restrictions, and any restriction or limitation regarding any Award or the Shares relating thereto, based in each case on such factors as the Administrator will determine;

(vi) temporarily suspend the exercisability of an Award if the Administrator deems such suspension to be necessary or appropriate for administrative purposes or to comply with Applicable Laws, provided that such suspension must be lifted prior to the expiration of the maximum term and post-service exercisability period of an Award, unless doing so would not comply with Applicable Laws;

(vii) to construe and interpret the terms of the Plan and Awards granted pursuant to the Plan;

(viii) to prescribe, amend and rescind rules and regulations relating to the Plan, including rules and regulations relating to sub-plans established for the purpose of satisfying applicable foreign laws or for qualifying for favorable tax treatment under applicable foreign laws;

(ix) to modify or amend each Award (subject to Section 18 of the Plan), including but not limited to the discretionary authority to extend the post-service exercisability period of Awards and to extend the maximum term of an Option;

(x) to allow Participants to satisfy withholding tax obligations in such manner as prescribed in Section 14 of the Plan;

(xi) to authorize any person to execute on behalf of the Company any instrument required to effect the grant of an Award previously granted by the Administrator;

(xii) to allow a Participant to defer the receipt of the payment of cash or the delivery of Shares that would otherwise be due to such Participant under an Award;

(xiii) determine whether Awards will be settled in Shares, cash or in any combination thereof;

(xiv) impose such restrictions, conditions or limitations as it determines appropriate as to the timing and manner of any resales by a Participant or other subsequent transfers by the Participant of any Shares issued as a result of or under an Award, including without limitation, (A) restrictions under an insider trading policy, and (B) restrictions as to the use of a specified brokerage firm for such resales or other transfers; and

(xv) to make all other determinations deemed necessary or advisable for administering the Plan.

(c) No Exchange Program. Notwithstanding anything herein to the contrary, the Administrator may not institute an Exchange Program.

(d) Effect of Administrator's Decision. The Administrator's decisions, determinations and interpretations will be final and binding on all Participants and any other holders of Awards.

5. Eligibility. Nonstatutory Stock Options, Stock Appreciation Rights, Restricted Stock, Restricted Stock Units, Performance Shares and Performance Units may be granted to Employees so long as the following requirements are met:

(a) The Employee was not previously an Employee or Director, or the Employee is to become employed by the Company or any of its Parents or Subsidiaries following a bona-fide period of non-employment (within the meaning of the Inducement Listing Rule); and

(b) The grant of an Award is an inducement material to the Employee's entering into employment with the Company or any of its Parents or Subsidiaries in accordance with the Inducement Listing Rule.

6. Stock Options.

(a) Grant of Option. The Administrator, in its sole discretion and subject to the terms and conditions of the Plan, including without limitation the eligibility requirements of Section 5, may grant Options to any individual as a material inducement to the individual becoming an Employee, which grant shall become effective only if the individual actually becomes an Employee. Subject to the terms and conditions of the Plan, the Administrator will have complete discretion to determine the number of Shares granted to any Employee. Each Option shall be evidenced by an Award Agreement that shall specify the exercise price, the expiration date of the Option, the number of Shares covered by the

Option, any conditions to exercise the Option, and such other terms and conditions as the Administrator, in its discretion, shall determine.

(b) Term of Option. The term of each Option will be stated in the Award Agreement; provided, however, that the term will be no more than ten (10) years from the date of grant.

(c) Option Exercise Price and Consideration.

(i) Exercise Price. The per share exercise price for the Shares to be issued pursuant to exercise of an Option will be determined by the Administrator, provided that the per Share exercise price will be no less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant.

(ii) Waiting Period and Exercise Dates. At the time an Option is granted, the Administrator will fix the period within which the Option may be exercised and will determine any conditions that must be satisfied before the Option may be exercised.

(iii) Form of Consideration. The Administrator will determine the acceptable form of consideration for exercising an Option, including the method of payment. Such consideration may consist entirely of, without limitation: (1) cash; (2) check; (3) promissory note, to the extent permitted by Applicable Laws, (4) other Shares, provided that such Shares have a Fair Market Value on the date of surrender equal to the aggregate exercise price of the Shares as to which such Option will be exercised and provided that accepting such Shares will not result in any adverse accounting consequences to the Company, as the Administrator determines in its sole discretion; (5) consideration received by the Company under a broker-assisted (or other) cashless exercise program (whether through a broker or otherwise) implemented by the Company in connection with the Plan; (6) by net exercise; (7) such other consideration and method of payment for the issuance of Shares to the extent permitted by Applicable Laws; or (8) any combination of the foregoing methods of payment.

(d) Exercise of Option.

(i) Procedure for Exercise; Rights as a Stockholder. Any Option granted hereunder will be exercisable according to the terms of the Plan and at such times and under such conditions as determined by the Administrator and set forth in the Award Agreement. An Option may not be exercised for a fraction of a Share.

An Option will be deemed exercised when the Company receives: (i) a notice of exercise (in such form as the Administrator may specify from time to time) from the person entitled to exercise the Option, and (ii) full payment for the Shares with respect to which the Option is exercised (together with applicable withholding taxes). Full payment may consist of any consideration and method of payment authorized by the Administrator and permitted by the Award Agreement and the Plan. Shares issued upon exercise of an Option will be issued in the name of the Participant or, if requested by the Participant, in the name of the Participant and his or her spouse. Until the Shares are issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company), no right to vote or receive dividends or any other rights as a stockholder will exist with respect to the Shares subject to an Option, notwithstanding the exercise of the Option. The Company will issue (or cause to be issued) such Shares promptly after the Option is exercised. No adjustment will be made for a dividend or other right for which the record date is prior to the date the Shares are issued, except as provided in Section 13 of the Plan.

Exercising an Option in any manner will decrease the number of Shares thereafter available, both for purposes of the Plan and for sale under the Option, by the number of Shares as to which the Option is exercised.

(ii) Cessation of Status as a Service Provider. If a Participant ceases to be a Service Provider, other than upon the cessation of the Participant's Service Provider status as the result of the Participant's death or Disability, the Participant may exercise his or her Option within such period of time as is specified in the Award Agreement to the extent that the Option is vested on the date of cessation of the Participant's Service Provider status (but in no event later than the expiration of the term of such Option as set forth in the Award Agreement). In the absence of a specified time in the Award Agreement, the Option will remain exercisable for three (3) months following cessation of the Participant's Service Provider status. Unless otherwise provided by the Administrator, if on the date of cessation of the Participant's Service Provider status the Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option will revert to the Plan. If after cessation of the Participant's Service Provider status the Participant does not exercise his or her Option within the time specified by the Administrator, the Option will terminate, and the Shares covered by such Option will revert to the Plan.

(iii) Disability of Participant. If a Participant ceases to be a Service Provider as a result of the Participant's Disability, the Participant may exercise his or her Option within such period of time as is specified in the Award Agreement to the extent the Option is vested on the date of cessation of the Participant's Service Provider status (but in no event later than the expiration of the term of such Option as set forth in the Award Agreement). In the absence of a specified time in the Award Agreement, the Option will remain exercisable for twelve (12) months following the cessation of the Participant's Service Provider status. Unless otherwise provided by the Administrator, if on the date of cessation of the Participant's Service Provider status the Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option will revert to the Plan. If after cessation of the Participant's Service Provider status the Participant does not exercise his or her Option within the time specified herein, the Option will terminate, and the Shares covered by such Option will revert to the Plan.

(iv) Death of Participant. If a Participant dies while a Service Provider, the Option may be exercised following the Participant's death within such period of time as is specified in the Award Agreement to the extent that the Option is vested on the date of death (but in no event may the Option be exercised later than the expiration of the term of such Option as set forth in the Award Agreement), by the Participant's designated beneficiary, provided such beneficiary has been designated prior to Participant's death in a form acceptable to the Administrator. If no such beneficiary has been designated by the Participant, then such Option may be exercised by the personal representative of the Participant's estate or by the person(s) to whom the Option is transferred pursuant to the Participant's will or in accordance with the laws of descent and distribution. In the absence of a specified time in the Award Agreement, the Option will remain exercisable for twelve (12) months following Participant's death. Unless otherwise provided by the Administrator, if at the time of death Participant is not vested as to his or her entire Option, the Shares covered by the unvested portion of the Option will immediately revert to the Plan. If the Option is not so exercised within the time specified herein, the Option will terminate, and the Shares covered by such Option will revert to the Plan.

7. Restricted Stock.

(a) Grant of Restricted Stock. Subject to the terms and conditions of the Plan, including without limitation the eligibility requirements of Section 5, the Administrator, at any time and from time to time, may grant Shares of Restricted Stock to any individual as a material inducement to the individual becoming an Employee, which grant shall become effective only if the individual actually becomes an Employee, in such amounts as the Administrator, in its sole discretion, will determine.

(b) Restricted Stock Agreement. Each Award of Restricted Stock will be evidenced by an Award Agreement that will specify the Period of Restriction, the number of Shares granted, and such other terms and conditions as the Administrator, in its sole discretion, will determine. Unless the Administrator determines otherwise, the Company as escrow agent will hold Shares of Restricted Stock until the restrictions on such Shares have lapsed.

(c) Transferability. Except as provided in this Section 7 or the Award Agreement, Shares of Restricted Stock may not be sold, transferred, pledged, assigned, or otherwise alienated or hypothecated until the end of the applicable Period of Restriction.

(d) Other Restrictions. The Administrator, in its sole discretion, may impose such other restrictions on Shares of Restricted Stock as it may deem advisable or appropriate.

(e) Removal of Restrictions. Except as otherwise provided in this Section 7, Shares of Restricted Stock covered by each Restricted Stock grant made under the Plan will be released from escrow as soon as practicable after the last day of the Period of Restriction or at such other time as the Administrator may determine. The Administrator, in its discretion, may accelerate the time at which any restrictions will lapse or be removed.

(f) Voting Rights. During the Period of Restriction, Participants holding Shares of Restricted Stock granted hereunder may exercise full voting rights with respect to those Shares, unless the Administrator determines otherwise.

(g) Dividends and Other Distributions. During the Period of Restriction, Participants holding Shares of Restricted Stock will be entitled to receive all dividends and other distributions paid with respect to such Shares, unless the Administrator provides otherwise. If any such dividends or distributions are paid in Shares, the Shares will be subject to the same restrictions on transferability and forfeitability as the Shares of Restricted Stock with respect to which they were paid.

(h) Return of Restricted Stock to Company. On the date set forth in the Award Agreement, the Restricted Stock for which restrictions have not lapsed will revert to the Company and again will become available for grant under the Plan.

8. Restricted Stock Units.

(a) Grant of Restricted Stock Units. Subject to the terms and conditions of the Plan, including without limitation the eligibility requirements of Section 5, Restricted Stock Units may be granted at any time and from time to time as determined by the Administrator to any individual as a material inducement to the individual becoming an Employee, which grant shall become effective only if the individual actually becomes an Employee. After the Administrator determines that it will grant Restricted Stock Units under the Plan, it will advise the Participant in an Award Agreement of the terms, conditions, and restrictions related to the grant, including the number of Restricted Stock Units.

(b) Vesting Criteria and Other Terms. The Administrator will set vesting criteria in its discretion, which, depending on the extent to which the criteria are met, will determine the number of Restricted Stock Units that will be paid out to the Participant. The Administrator may set vesting criteria based upon the achievement of Company-wide, divisional, business unit, or individual goals (including, but not limited to, continued employment or service), applicable federal or state securities laws or any other basis determined by the Administrator in its discretion.

(c) Earning Restricted Stock Units. Upon meeting the applicable vesting criteria, the Participant will be entitled to receive a payout as determined by the Administrator. Notwithstanding the foregoing, at any time after the grant of Restricted Stock Units, the Administrator, in its sole discretion, may reduce or waive any vesting criteria that must be met to receive a payout.

(d) Form and Timing of Payment. Payment of earned Restricted Stock Units will be made as soon as practicable after the date(s) determined by the Administrator and set forth in the Award Agreement. The Administrator, in its sole discretion, may only settle earned Restricted Stock Units in cash, Shares, or a combination of both.

(e) Cancellation. On the date set forth in the Award Agreement, all unearned Restricted Stock Units will be forfeited to the Company.

9. Stock Appreciation Rights.

(a) Grant of Stock Appreciation Rights. Subject to the terms and conditions of the Plan, including without limitation the eligibility requirements of Section 5, a Stock Appreciation Right may be granted to any individual as a material inducement to the individual becoming an Employee, which grant shall become effective only if the individual actually becomes an Employee, at any time and from time to time as will be determined by the Administrator, in its sole discretion.

(b) Number of Shares. The Administrator will have complete discretion to determine the number of Stock Appreciation Rights granted to any Employee.

(c) Exercise Price and Other Terms. The per share exercise price for the Shares to be issued pursuant to exercise of a Stock Appreciation Right will be determined by the Administrator and will be no less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant. Otherwise, the Administrator, subject to the provisions of the Plan, will have complete discretion to determine the terms and conditions of Stock Appreciation Rights granted under the Plan.

(d) Stock Appreciation Right Agreement. Each Stock Appreciation Right grant will be evidenced by an Award Agreement that will specify the exercise price, the term of the Stock Appreciation Right, the conditions of exercise, and such other terms and conditions as the Administrator, in its sole discretion, will determine.

(e) Expiration of Stock Appreciation Rights. A Stock Appreciation Right granted under the Plan will expire upon the date determined by the Administrator, in its sole discretion, and set forth in the Award Agreement. Notwithstanding the foregoing, the rules of Section 6(b) relating to the maximum term and Section 6(d) relating to exercise also will apply to Stock Appreciation Rights.

(f) Payment of Stock Appreciation Right Amount. Upon exercise of a Stock Appreciation Right, a Participant will be entitled to receive payment from the Company in an amount determined by multiplying:

- (i) The difference between the Fair Market Value of a Share on the date of exercise over the exercise price; times
- (ii) The number of Shares with respect to which the Stock Appreciation Right is exercised.

At the discretion of the Administrator, the payment upon Stock Appreciation Right exercise may be in cash, in Shares of equivalent value, or in some combination thereof.

10. Performance Units and Performance Shares.

(a) Grant of Performance Units/Shares. Subject to the terms and conditions of the Plan, including without limitation the eligibility requirements of Section 5, Performance Units and Performance Shares may be granted to any individual as a material inducement to the individual becoming an Employee, which grant shall become effective only if the individual actually becomes an Employee, at any time and from time to time, as will be determined by the Administrator, in its sole discretion. The Administrator will have complete discretion in determining the number of Performance Units and Performance Shares granted to each Participant.

(b) Value of Performance Units/Shares. Each Performance Unit will have an initial value that is established by the Administrator on or before the date of grant. Each Performance Share will have an initial value equal to the Fair Market Value of a Share on the date of grant.

(c) Performance Objectives and Other Terms. The Administrator will set performance objectives or other vesting provisions (including, without limitation, continued status as a Service Provider) in its discretion which, depending on the extent to which they are met, will determine the number or value of Performance Units/Shares that will be paid out to the Participants. The time period during which the performance objectives or other vesting provisions must be met will be called the “Performance Period.” Each Award of Performance Units/Shares will be evidenced by an Award Agreement that will specify the Performance Period, and such other terms and conditions as the Administrator, in its sole discretion, will determine. The Administrator may set performance objectives based upon the achievement of Company-wide, divisional, business unit or individual goals (including, but not limited to, continued employment or service), applicable federal or state securities laws, or any other basis determined by the Administrator in its discretion.

(d) Earning of Performance Units/Shares. After the applicable Performance Period has ended, the holder of Performance Units/Shares will be entitled to receive a payout of the number of Performance Units/Shares earned by the Participant over the Performance Period, to be determined as a function of the extent to which the corresponding performance objectives or other vesting provisions have been achieved. After the grant of a Performance Unit/Share, the Administrator, in its sole discretion, may reduce or waive any performance objectives or other vesting provisions for such Performance Unit/Share.

(e) Form and Timing of Payment of Performance Units/Shares. Payment of earned Performance Units/Shares will be made as soon as practicable after the expiration of the applicable Performance Period. The Administrator, in its sole discretion, may pay earned Performance Units/Shares in the form of cash, in Shares (which have an aggregate Fair Market Value equal to the value of the earned Performance Units/Shares at the close of the applicable Performance Period) or in a combination thereof.

(f) Cancellation of Performance Units/Shares. On the date set forth in the Award Agreement, all unearned or unvested Performance Units/Shares will be forfeited to the Company, and again will be available for grant under the Plan.

11. Leaves of Absence/Transfer Between Locations. Unless the Administrator provides otherwise or as otherwise required by Applicable Law, vesting of Awards granted hereunder will be suspended during any unpaid leave of absence. A Participant will not cease to be an Employee in the case of (i) any leave of absence approved by the Company or (ii) transfers between locations of the Company or between the Company, its Parent, or any Subsidiary.

12. Transferability of Awards. Unless determined otherwise by the Administrator, an Award may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution and may be exercised, during the lifetime of the Participant, only by the Participant. If the Administrator makes an Award transferable, such Award will contain such additional terms and conditions as the Administrator deems appropriate.

13. Adjustments; Dissolution or Liquidation; Merger or Change in Control.

(a) Adjustments. In the event that any dividend or other distribution (whether in the form of cash, Shares, other securities, or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase, or exchange of Shares or other securities of the Company, or other change in the corporate structure of the Company affecting the Shares occurs (other than any ordinary dividends or other ordinary distributions), the Administrator, in order to prevent diminution or enlargement of the benefits or potential benefits intended to be made available under the Plan, will adjust the number and class of shares of stock that may be delivered under the Plan and/or the number, class, and price of shares of stock covered by each outstanding Award, and the numerical Share limits in Section 3 of the Plan.

(b) Dissolution or Liquidation. In the event of the proposed dissolution or liquidation of the Company, the Administrator will notify each Participant as soon as practicable prior to the effective date of such proposed transaction. To the extent it has not been previously exercised (with respect to an Option or Stock Appreciation Right) or vested (with respect to an Award other than an Option or Stock Appreciation Right), an Award will terminate immediately prior to the consummation of such proposed action.

(c) Merger or Change in Control. In the event of a merger of the Company with or into another corporation or other entity or a Change in Control, each outstanding Award will be treated as the Administrator determines, including, without limitation, that each Award be assumed or an equivalent option or right substituted by the successor corporation or a Parent or Subsidiary of the successor corporation. The Administrator will not be required to treat all Awards similarly in the transaction.

In the event that the successor corporation does not assume or substitute for the Award, the Participant will fully vest in and have the right to exercise all of his or her outstanding Options and Stock Appreciation Rights, including Shares as to which such Awards would not otherwise be vested or exercisable, all restrictions on Restricted Stock and Restricted Stock Units will lapse, and, with respect to Awards with performance-based vesting, all performance goals or other vesting criteria will be deemed achieved at one hundred percent (100%) of target levels and all other terms and conditions met, in each case, unless specifically provided otherwise by the Administrator or under the applicable Award Agreement or other written agreement authorized by the Administrator between the Participant and the Company or any of its Subsidiaries or Parents, as applicable. In addition, unless specifically provided otherwise by the Administrator or under the applicable Award Agreement or other written agreement authorized by the Administrator between the Participant and the Company or any of its Subsidiaries or Parents, as applicable, if an Option or Stock Appreciation Right is not assumed or substituted in the event of a Change in Control, the Administrator will notify the Participant in writing or electronically that the Option or Stock Appreciation Right will be exercisable for a period of time determined by the Administrator in its sole discretion, and the Option or Stock Appreciation Right will terminate upon the expiration of such period.

For the purposes of this subsection 13(c), an Award will be considered assumed if, following the Change in Control, the Award confers the right to purchase or receive, for each Share subject to the Award immediately prior to the Change in Control, the consideration (whether stock, cash, or other securities or property) received in the Change in Control by holders of Common Stock for each Share held on the effective date of the transaction (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding Shares); provided, however, that if such consideration received in the Change in Control is not solely common stock of the successor corporation or its Parent, the Administrator may, with the consent of the successor corporation, provide for the consideration to be received upon the exercise of an Option or Stock Appreciation Right or upon the payout of a Restricted Stock Unit, Performance Unit or Performance Share, for each Share subject to such Award, to be solely common stock of the successor corporation or its Parent equal in fair market value to the per share consideration received by holders of Common Stock in the Change in Control. For the avoidance of doubt, the Administrator may determine that, for purposes of this Section 13(c), the Company is the successor corporation with respect to some or all Awards.

Notwithstanding anything in this Section 13(c) to the contrary, and unless otherwise provided by the Administrator or under an Award Agreement or other written agreement authorized by the Administrator between the Participant and the Company or any of its Subsidiaries or Parents, as applicable, an Award that vests, is earned or paid-out upon the satisfaction of one or more performance goals will not be considered assumed if the Company or its successor modifies any of such performance goals without the Participant's consent; provided, however, a modification to such performance goals only to reflect the successor corporation's post-Change in Control corporate structure will not be deemed to invalidate an otherwise valid Award assumption.

14. Tax.

(a) Withholding Requirements. Prior to the delivery of any Shares or cash pursuant to an Award (or exercise thereof) or such earlier time as any tax withholding obligations are due, the Company (or any of its Subsidiaries, Parents or affiliates employing or retaining the services of a Participant, as applicable) will have the power and the right to deduct or withhold, or require a Participant to remit to the Company (or any of its Subsidiaries, Parents or affiliates, as applicable), an amount sufficient to satisfy federal, state, local, foreign or other taxes (including the Participant's FICA obligation) required to be withheld with respect to such Award (or exercise thereof).

(b) Withholding Arrangements. The Administrator, in its sole discretion and pursuant to such procedures as it may specify from time to time, may permit a Participant to satisfy such tax withholding obligation, in whole or in part by (without limitation) (i) paying cash, check or other cash equivalents; (ii) electing to have the Company withhold otherwise deliverable cash or Shares having a fair market value equal to the minimum statutory amount required to be

withheld or such greater amount as the Administrator may determine if such amount would not have adverse accounting consequences, as the Administrator determines in its sole discretion; (iii) delivering to the Company already-owned Shares having a fair market value equal to the statutory amount required to be withheld or such greater amount as the Administrator may determine, in each case, provided the delivery of such Shares will not result in any adverse accounting consequences, as the Administrator determines in its sole discretion; (iv) selling a sufficient number of Shares otherwise deliverable to the Participant through such means as the Administrator may determine in its sole discretion (whether through a broker or otherwise) equal to the amount required to be withheld or such greater amount as the Administrator may determine, in each case, provided the delivery of such Shares will not result in any adverse accounting consequences, as the Administrator determines in its sole discretion; (v) such other consideration and method of payment for the meeting of tax withholding obligations as the Administrator may determine to the extent permitted by Applicable Laws; or (vi) any combination of the foregoing methods of payment. The withholding amount will be deemed to include any amount which the Administrator agrees may be withheld at the time the election is made, not to exceed the amount determined by using the maximum federal, state or local marginal income tax rates applicable to the Participant with respect to the Award on the date that the amount of tax to be withheld is to be determined or such greater amount as the Administrator may determine if such amount would not have adverse accounting consequences, as the Administrator determines in its sole discretion. The fair market value of the Shares to be withheld or delivered will be determined as of the date that the taxes are required to be withheld.

(c) Compliance With Code Section 409A. Awards will be designed and operated in such a manner that they are either exempt from the application of, or comply with, the requirements of Code Section 409A such that the grant, payment, settlement or deferral will not be subject to the additional tax or interest applicable under Code Section 409A, except as otherwise determined in the sole discretion of the Administrator. Each payment or benefit under this Plan and under each Award Agreement is intended to constitute a separate payment for purposes of Section 1.409A-2(b)(2) of the Treasury Regulations. The Plan and each Award Agreement under the Plan is intended to be exempt from or otherwise meet the requirements of Code Section 409A and will be construed and interpreted, including but not limited with respect to ambiguities and/or ambiguous terms, in accordance with such intent, except as otherwise determined in the sole discretion of the Administrator. To the extent that an Award or payment, or the settlement or deferral thereof, is subject to Code Section 409A, the Award will be granted, paid, settled or deferred in a manner that will meet the requirements of Code Section 409A, such that the grant, payment, settlement or deferral will not be subject to the additional tax or interest applicable under Code Section 409A. In no event will the Company or any of its Subsidiaries or Parents have any obligation or liability under the terms of this Plan to reimburse, indemnify, or hold harmless any Participant or any other person in respect of Awards, for any taxes, interest or penalties imposed, or other costs incurred, as a result of Section 409A.

15. No Effect on Employment or Service. Neither the Plan nor any Award will confer upon a Participant any right with respect to continuing the Participant's relationship as a Service Provider, nor will they interfere in any way with the Participant's right or the right of the Company and its Subsidiaries or Parents, as applicable, to terminate such relationship at any time, with or without cause, to the extent permitted by Applicable Laws.

16. Date of Grant. The date of grant of an Award will be, for all purposes, the date on which the Administrator makes the determination granting such Award, or such other later date as is determined by the Administrator. Notice of the determination will be provided to each Participant within a reasonable time after the date of such grant.

17. Term of Plan. The Plan will become effective upon its adoption by the Board (or its designated Committee). It will continue in effect for a term of ten (10) years from the date adopted by the Board (or its designated Committee), unless terminated earlier under Section 18 of the Plan.

18. Amendment and Termination of the Plan.

(a) Amendment and Termination. The Administrator may at any time amend, alter, suspend or terminate the Plan.

(b) Stockholder Approval. The Company will obtain stockholder approval of any Plan amendment to the extent that the Administrator (in its discretion) determines such approval is necessary and desirable to comply with Applicable Laws.

(c) Effect of Amendment or Termination. No amendment, alteration, suspension or termination of the Plan will impair the rights of any Participant, unless mutually agreed otherwise between the Participant and the Administrator, which agreement must be in writing and signed by the Participant and the Company. Termination of the Plan will not affect the Administrator's ability to exercise the powers granted to it hereunder with respect to Awards granted under the Plan prior to the date of such termination.

19. Conditions Upon Issuance of Shares.

(a) Legal Compliance. Shares will not be issued pursuant to an Award unless the exercise of such Award and the issuance and delivery of such Shares will comply with Applicable Laws and will be further subject to the approval of counsel for the Company with respect to such compliance.

(b) Investment Representations. As a condition to the exercise of an Award, the Company may require the person exercising such Award to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for the Company, such a representation is required.

20. Inability to Obtain Authority. The inability of the Company to obtain authority from any regulatory body having jurisdiction or to complete or comply with the requirements of any registration or other qualification of the Shares under any state, federal or foreign law or under the rules and regulations of the Securities and Exchange Commission, the stock exchange on which Shares of the same class are then listed, or any other governmental or regulatory body, which authority, registration, qualification or rule compliance is deemed by the Company's counsel to be necessary or advisable for the issuance and sale of any Shares hereunder, will relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority, registration, qualification or rule compliance will not have been obtained.

NANOSTRING TECHNOLOGIES, INC.
2018 INDUCEMENT EQUITY INCENTIVE PLAN
RESTRICTED STOCK UNIT AGREEMENT

Unless otherwise defined herein, the terms defined in the NanoString Technologies, Inc. 2018 Inducement Equity Incentive Plan (the “Plan”) will have the same defined meanings in this Restricted Stock Unit Agreement (the “Award Agreement”), which includes the Notice of Restricted Stock Unit Grant (the “Notice of Grant”) and Terms and Conditions of Restricted Stock Unit Grant, attached hereto as Exhibit A.

NOTICE OF RESTRICTED STOCK UNIT GRANT

Participant Name:

Address:

Participant has been granted the right to receive an Award of Restricted Stock Units, subject to the terms and conditions of the Plan and this Award Agreement, as follows:

Grant Number

Date of Grant

Vesting Commencement Date

Number of Restricted Stock Units

Vesting Schedule:

Subject to any acceleration provisions contained in the Plan or set forth below, the Restricted Stock Units will vest in accordance with the following schedule:

[Insert vesting schedule, e.g.,: One-third (1/3rd) of the Restricted Stock Units will vest on the one (1) year anniversary of the Vesting Commencement Date, and one-third (1/3rd) of the Restricted Stock Units will vest each year thereafter on the same day as the Vesting Commencement Date, subject to Participant continuing to be a Service Provider through each such date.]

[Insert vesting acceleration provisions, if any, e.g.,: Notwithstanding the foregoing, in the event of (A) a Change in Control in which the Restricted Stock Units are assumed and (B) the subsequent termination of the Participant’s service either (i) by the Company without Cause (as defined below) or (ii) by Participant’s resignation for Good Reason (as defined below), one hundred percent (100%) of the Restricted Stock Units will become fully vested as of the time immediately prior to the Participant’s termination of service.

“Cause” for termination of Participant will exist if Participant is terminated for any of the following reasons: (i) Participant’s failure to substantially perform his or her duties and responsibilities to the Company (other than a failure resulting from Participant’s disability) after receiving written notice of the alleged failure and ten (10) days opportunity to cure; (ii) Participant’s commission of any act of fraud, embezzlement, dishonesty or misrepresentation; (iii) Participant’s violation of any federal or state law or regulation applicable to the business of the Company or its affiliates; (iv) Participant’s breach of any confidentiality agreement or invention assignment agreement between Participant and the Company (or any affiliate of the Company); or (v) Participant being convicted of, or entering a plea of *nolo contendere* to, a felony or committing any act of moral turpitude, dishonesty or fraud against, or the misappropriation of material property belonging to, the Company or its affiliates. The determination as to whether Participant is being terminated for Cause shall be based on a good faith determination by the Board.

“Good Reason” means the occurrence of one or more of the following events effected without Participant’s prior consent: (i) the assignment to Participant of any duties or the reduction of Participant’s duties, either of which results in a material diminution in Participant’s position or responsibilities with the Company; provided that, it being understood that the continuance of Participant’s duties and responsibilities at the subsidiary or divisional level following a Change in Control, rather than at the parent, combined or surviving company level following such Change in Control shall not be deemed Good

Reason within the meaning of this clause (i); (ii) a material reduction by the Company in the base salary of Participant; (iii) a material change in the geographic location at which Participant must perform services (for purposes of the foregoing, the relocation of Participant to a facility or a location less than 25 miles from Participant's then-present location shall not be considered a material change in geographic location); or (iv) any material breach by the Company of any material provision of the employment or similar agreement under which Participant provides employment services to the Company. Participant will not resign for Good Reason without first providing the Company with written notice of the acts or omissions constituting the grounds for "Good Reason" within ninety (90) days of the initial existence of the grounds for "Good Reason" and a reasonable cure period of not less than thirty (30) days following the date of such notice. The determination as to whether Participant resigned for Good Reason shall be based on a good faith determination by the Board.]

In the event Participant ceases to be a Service Provider for any or no reason before Participant vests in the Restricted Stock Units, the Restricted Stock Units and Participant's right to acquire any Shares hereunder will immediately terminate.

By Participant's signature and the signature of the representative of NanoString Technologies, Inc. (the "Company") below, Participant and the Company agree that this Award of Restricted Stock Units is granted under and governed by the terms and conditions of the Plan and this Award Agreement, including the Terms and Conditions of Restricted Stock Unit Grant, attached hereto as Exhibit A, all of which are made a part of this document. Participant has reviewed the Plan and this Award Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Award Agreement and fully understands all provisions of the Plan and Award Agreement. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator upon any questions relating to the Plan and Award Agreement. Participant further agrees to notify the Company upon any change in the residence address indicated below.

PARTICIPANT: NANOSTRING TECHNOLOGIES, INC.

Signature By

Print Name Title

Residence Address:

EXHIBIT A

TERMS AND CONDITIONS OF RESTRICTED STOCK UNIT GRANT

1. **Grant.** The Company hereby grants to the individual named in the Notice of Grant (the “Participant”) under the Plan an Award of Restricted Stock Units, subject to all of the terms and conditions in this Award Agreement and the Plan, which is incorporated herein by reference. Subject to Section 18(c) of the Plan, in the event of a conflict between the terms and conditions of the Plan and the terms and conditions of this Award Agreement, the terms and conditions of the Plan will prevail.

2. **Company’s Obligation to Pay.** Each Restricted Stock Unit represents the right to receive a Share on the date it vests. Unless and until the Restricted Stock Units will have vested in the manner set forth in Sections 3 or 4, Participant will have no right to payment of any such Restricted Stock Units. Prior to actual payment of any vested Restricted Stock Units, such Restricted Stock Units will represent an unsecured obligation of the Company, payable (if at all) only from the general assets of the Company. Any Restricted Stock Units that vest in accordance with Sections 3 or 4 will be paid to Participant (or in the event of Participant’s death, to his or her estate) in whole Shares, subject to Participant satisfying any applicable tax withholding obligations as set forth in Section 7. Subject to the provisions of Section 4, such vested Restricted Stock Units shall be paid in whole Shares as soon as practicable after vesting, but in each such case within the period sixty (60) days following the vesting date. In no event will Participant be permitted, directly or indirectly, to specify the taxable year of the payment of any Restricted Stock Units payable under this Award Agreement.

3. **Vesting Schedule.** Except as provided in Section 4, and subject to Section 5, the Restricted Stock Units awarded by this Award Agreement will vest in accordance with the vesting provisions set forth in the Notice of Grant. Restricted Stock Units scheduled to vest on a certain date or upon the occurrence of a certain condition will not vest in Participant in accordance with any of the provisions of this Award Agreement, unless Participant will have been continuously a Service Provider from the Date of Grant until the date such vesting occurs.

4. **Administrator Discretion.** The Administrator, in its discretion, may accelerate the vesting of the balance, or some lesser portion of the balance, of the unvested Restricted Stock Units at any time, subject to the terms of the Plan. If so accelerated, such Restricted Stock Units will be considered as having vested as of the date specified by the Administrator. The payment of Shares vesting pursuant to this Section 4 shall in all cases be paid at a time or in a manner that is exempt from, or complies with, Section 409A.

Notwithstanding anything in the Plan or this Award Agreement to the contrary, if the vesting of the balance, or some lesser portion of the balance, of the Restricted Stock Units is accelerated in connection with Participant’s termination as a Service Provider (provided that such termination is a “separation from service” within the meaning of Section 409A, as determined by the Company), other than due to death, and if (x) Participant is a “specified employee” within the meaning of Section 409A at the time of such termination as a Service Provider and (y) the payment of such accelerated Restricted Stock Units will result in the imposition of additional tax under Section 409A if paid to Participant on or within the six (6) month period following Participant’s termination as a Service Provider, then the payment of such accelerated Restricted Stock Units will not be made until the date six (6) months and one (1) day following the date of Participant’s termination as a Service Provider, unless the Participant dies following his or her termination as a Service Provider, in which case, the Restricted Stock Units will be paid in Shares to the Participant’s estate as soon as practicable following his or her death. It is the intent of this Award Agreement that it and all payments and benefits hereunder be exempt from, or comply with, the requirements of Section 409A so that none of the Restricted Stock Units provided under this Award Agreement or Shares issuable thereunder will be subject to the additional tax imposed under Section 409A, and any ambiguities herein will be interpreted to be so exempt or so comply. Each payment payable under this Award Agreement is intended to constitute a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2). For purposes of this Award Agreement, “Section 409A” means Section 409A of the Code, and any final Treasury Regulations and Internal Revenue Service guidance thereunder, as each may be amended from time to time.

5. **Forfeiture upon Termination of Status as a Service Provider.** Notwithstanding any contrary provision of this Award Agreement, the balance of the Restricted Stock Units that have not vested as of the time of Participant’s termination as a Service Provider for any or no reason and Participant’s right to acquire any Shares hereunder will immediately terminate.

6. **Death of Participant.** Any distribution or delivery to be made to Participant under this Award Agreement will, if Participant is then deceased, be made to Participant’s designated beneficiary, or if no beneficiary survives Participant, the administrator or executor of Participant’s estate. Any such transferee must furnish the Company with (a) written notice of

his or her status as transferee, and (b) evidence satisfactory to the Company to establish the validity of the transfer and compliance with any laws or regulations pertaining to said transfer.

7. Withholding of Taxes. Participant acknowledges that, regardless of any action taken by the Company or, if different, Participant's employer (the "Employer") or any Parent or Subsidiary to which Participant is providing services (together, the "Service Recipients"), the ultimate liability for any tax and/or social insurance liability obligations and requirements in connection with the Restricted Stock Units, including, without limitation, (i) all federal, state, and local taxes (including Participant's Federal Insurance Contributions Act (FICA) obligations) that are required to be withheld by any Service Recipient or other payment of tax-related items related to Participant's participation in the Plan and legally applicable to Participant; (ii) Participant's and, to the extent required by any Service Recipient, the Service Recipient's fringe benefit tax liability, if any, associated with the grant, vesting, or settlement of the Restricted Stock Units or sale of Shares; and (iii) any other Service Recipient taxes the responsibility for which Participant has, or has agreed to bear, with respect to the Restricted Stock Units (or settlement thereof or issuance of Shares thereunder) (collectively, the "Tax Obligations"), is and remains Participant's sole responsibility and may exceed the amount actually withheld by the applicable Service Recipient(s). Participant further acknowledges that no Service Recipient (A) makes any representations or undertakings regarding the treatment of any Tax Obligations in connection with any aspect of the Restricted Stock Units, including, but not limited to, the grant, vesting or settlement of the Restricted Stock Units, the subsequent sale of Shares acquired pursuant to such settlement and the receipt of any dividends or other distributions, and (B) makes any commitment to and is under any obligation to structure the terms of the grant or any aspect of the Restricted Stock Units to reduce or eliminate Participant's liability for Tax Obligations or achieve any particular tax result. Further, if Participant is subject to Tax Obligations in more than one jurisdiction between the Date of Grant and the date of any relevant taxable or tax withholding event, as applicable, Participant acknowledges that the applicable Service Recipient(s) (or former employer, as applicable) may be required to withhold or account for Tax Obligations in more than one jurisdiction.

Pursuant to such procedures as the Administrator may specify from time to time, the Service Recipient may withhold the amount required to be withheld for the payment of Tax Obligations (the "Withholding Obligations"). The Administrator, in its sole discretion and pursuant to such procedures as it may specify from time to time, may permit Participant to satisfy such Withholding Obligations, in whole or in part (without limitation), if permissible by applicable local law, by: (i) paying cash in U.S. dollars, (ii) having the Company withhold otherwise deliverable Shares having a fair market value equal to the minimum amount that is necessary to meet the withholding requirement for such Withholding Obligations (or such greater amount as Participant may elect if permitted by the Administrator, if such greater amount would not result in adverse financial accounting consequences) ("Net Share Withholding"), (iii) withholding the amount of such Withholding Obligations from Participant's wages or other cash compensation paid to Participant by the applicable Service Recipient(s), (iv) delivering to the Company Shares that Participant owns and that already have vested with a fair market value equal to the Withholding Obligations (or such greater amount as Participant may elect if permitted by the Administrator, if such greater amount would not result in adverse financial accounting consequences), (v) selling a sufficient number of such Shares otherwise deliverable to Participant, through such means as the Company may determine in its sole discretion (whether through a broker or otherwise) equal to the minimum amount that is necessary to meet the withholding requirement for such Withholding Obligations (or such greater amount as Participant may elect if permitted by the Administrator, if such greater amount would not result in adverse financial accounting consequences) ("Sell to Cover"), (vi) such other means as the Administrator deems appropriate, or (vii) any combination of the foregoing methods of payment. If the Withholding Obligations are satisfied by withholding in Shares, for tax purposes, Participant is deemed to have been issued the full number of Shares subject to the vested Restricted Stock Units, notwithstanding that a number of the Shares are held back solely for the purpose of paying the Withholding Obligations. To the extent determined appropriate by the Company in its discretion, it will have the right (but not the obligation) to satisfy any Withholding Obligations by Net Share Withholding. If Net Share Withholding is the method by which such Withholding Obligations are satisfied, the Company will not withhold on a fractional Share basis to satisfy any portion of the Withholding Obligations and, unless the Company determines otherwise, no refund will be made to Participant for the value of the portion of a Share, if any, withheld in excess of the Withholding Obligations. If a Sell to Cover is the method by which Withholding Obligations are satisfied, Participant agrees that as part of the Sell to Cover, additional Shares may be sold to satisfy any associated broker or other fees. Only whole Shares will be sold pursuant to a Sell to Cover. Any proceeds from the sale of Shares pursuant to a Sell to Cover that are in excess of the Withholding Obligations and any associated broker or other fees will be paid to Participant in accordance with procedures the Company may specify from time to time.

Participant is advised to review with his or her own tax advisers the U.S. federal, state, local and non-U.S. tax consequences of the transactions contemplated by this Award Agreement. With respect to such matters, Participant relies solely on such advisers and not on any statements or representations of the Company or any of its agents, written or oral. Participant understands that Participant (and not the Company or any Service Recipient) shall be responsible for Participant's own tax liability that may arise as a result of the transactions contemplated by this Award Agreement.

For clarification purposes, in no event will the Company issue Participant any Shares unless and until arrangements satisfactory to the Administrator have been made for the payment of Participant's Withholding Obligations. If Participant fails to make satisfactory arrangements for the payment of such Withholding Obligations hereunder at the time any applicable Restricted Stock Units otherwise are scheduled to vest pursuant to this Award Agreement or Participant's Withholding Obligations otherwise become due, Participant permanently will forfeit such Restricted Stock Units to which Participant's Withholding Obligation relates and any right to receive Shares thereunder and such Restricted Stock Units will be returned to the Company at no cost to the Company. Participant acknowledges and agrees that the Company may permanently refuse to issue or deliver the Shares if such Withholding Obligations are not delivered at the time they are due.

8. Rights as Stockholder. Neither Participant nor any person claiming under or through Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until certificates representing such Shares will have been issued, recorded on the records of the Company or its transfer agents or registrars, and delivered to Participant. After such issuance, recordation and delivery, Participant will have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares.

9. No Guarantee of Continued Service. PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF THE RESTRICTED STOCK UNITS PURSUANT TO THE VESTING SCHEDULE HEREOF IS EARNED ONLY BY CONTINUING AS A SERVICE PROVIDER AT THE WILL OF THE COMPANY (OR THE PARENT OR SUBSIDIARY EMPLOYING OR RETAINING PARTICIPANT) AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THIS AWARD OF RESTRICTED STOCK UNITS OR ACQUIRING SHARES HEREUNDER. PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THIS AWARD AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND WILL NOT INTERFERE IN ANY WAY WITH PARTICIPANT'S RIGHT OR THE RIGHT OF THE COMPANY (OR THE PARENT OR SUBSIDIARY EMPLOYING OR RETAINING PARTICIPANT) TO TERMINATE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER AT ANY TIME, WITH OR WITHOUT CAUSE.

10. Address for Notices. Any notice to be given to the Company under the terms of this Award Agreement will be addressed to the Company at NanoString Technologies, Inc., 530 Fairview North, Seattle, WA 98109, or at such other address as the Company may hereafter designate in writing.

11. Grant is Not Transferable. Except to the limited extent provided in Section 6, this grant and the rights and privileges conferred hereby will not be transferred, assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and will not be subject to sale under execution, attachment or similar process. Upon any attempt to transfer, assign, pledge, hypothecate or otherwise dispose of this grant, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, this grant and the rights and privileges conferred hereby immediately will become null and void.

12. Binding Agreement. Subject to the limitation on the transferability of this grant contained herein, this Award Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

13. Additional Conditions to Issuance of Stock. If at any time the Company will determine, in its discretion, that the listing, registration, qualification or rule compliance of the Shares upon any securities exchange or under any state, federal or foreign law, the tax code and related regulations or the consent or approval of any governmental regulatory authority is necessary or desirable as a condition to the issuance of Shares to Participant (or his or her estate) hereunder, such issuance will not occur unless and until such listing, registration, qualification, rule compliance, consent or approval will have been completed, effected or obtained free of any conditions not acceptable to the Company. Where the Company determines that the delivery of the payment of any Shares will violate federal securities laws or other applicable laws, the Company will defer delivery until the earliest date at which the Company reasonably anticipates that the delivery of Shares will no longer cause such violation. The Company will make all reasonable efforts to meet the requirements of any such state, federal or

foreign law or securities exchange and to obtain any such consent or approval of any such governmental authority or securities exchange.

14. Plan Governs. This Award Agreement is subject to all terms and provisions of the Plan. In the event of a conflict between one or more provisions of this Award Agreement and one or more provisions of the Plan, the provisions of the Plan will govern. Capitalized terms used and not defined in this Award Agreement will have the meaning set forth in the Plan.

15. Administrator Authority. The Administrator will have the power to interpret the Plan and this Award Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination of whether or not any Restricted Stock Units have vested). All actions taken and all interpretations and determinations made by the Administrator in good faith will be final and binding upon Participant, the Company and all other interested persons. No member of the Administrator will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Award Agreement.

16. Electronic Delivery. The Company may, in its sole discretion, decide to deliver any documents related to Restricted Stock Units awarded under the Plan or future Restricted Stock Units that may be awarded under the Plan by electronic means or request Participant's consent to participate in the Plan by electronic means. Participant hereby consents to receive such documents by electronic delivery and agrees to participate in the Plan through any on-line or electronic system established and maintained by the Company or another third party designated by the Company.

17. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Award Agreement.

18. Agreement Severable. In the event that any provision in this Award Agreement will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Award Agreement.

19. Modifications to the Award Agreement. This Award Agreement constitutes the entire understanding of the parties on the subjects covered. Participant expressly warrants that he or she is not accepting this Award Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Award Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Award Agreement, the Company reserves the right to revise this Award Agreement as it deems necessary or advisable, in its sole discretion and without the consent of Participant, to comply with Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Section 409A in connection to this Award of Restricted Stock Units.

20. Amendment, Suspension or Termination of the Plan. By accepting this Award, Participant expressly warrants that he or she has received an Award of Restricted Stock Units under the Plan, and has received, read and understood a description of the Plan. Participant understands that the Plan is discretionary in nature and may be amended, suspended or terminated by the Company at any time.

21. Governing Law. This Award Agreement will be governed by the laws of Washington without giving effect to the conflict of law principles thereof. For purposes of litigating any dispute that arises under this Award of Restricted Stock Units or this Award Agreement, the parties hereby submit to and consent to the jurisdiction of the State of Washington, and agree that such litigation will be conducted in the courts of King County, Washington, or the federal courts for the United States for the District of Washington, and no other courts, where this Award of Restricted Stock Units is made and/or to be performed.

**NANOSTRING TECHNOLOGIES, INC.
2018 INDUCEMENT EQUITY INCENTIVE PLAN
STOCK OPTION AGREEMENT**

Unless otherwise defined herein, the terms defined in the NanoString Technologies, Inc. 2018 Inducement Equity Incentive Plan (the “Plan”) will have the same defined meanings in this Stock Option Agreement (the “Agreement”), including the Notice of Stock Option Grant (the “Notice of Grant”) and Terms and Conditions of Stock Option Grant, attached hereto as Exhibit A.

NOTICE OF STOCK OPTION GRANT

Participant:

Address:

Participant has been granted an Option to purchase Common Stock of NanoString Technologies, Inc. (the “Company”), subject to the terms and conditions of the Plan and this Agreement, as follows:

Grant Number:

Date of Grant:

Vesting Commencement Date:

Number of Shares Granted:

Exercise Price per Share: \$

Total Exercise Price: \$

Type of Option: Nonstatutory Stock Option

Term/Expiration Date

Vesting Schedule:

Subject to accelerated vesting as set forth below or in the Plan, this Option will be exercisable, in whole or in part, in accordance with the following schedule:

[Insert vesting schedule]

[Insert vesting acceleration provisions]

Termination Period:

This Option will be exercisable for three (3) months after Participant ceases to be a Service Provider, unless such termination is due to Participant’s death or Disability, in which case this Option will be exercisable for twelve (12) months after Participant ceases to be a Service Provider. Notwithstanding the foregoing sentence, in no event may this Option be exercised after the Term/Expiration Date as provided above and may be subject to earlier termination as provided in Section 13(c) of the Plan.

By Participant’s signature and the signature of the Company’s representative below, Participant and the Company agree that this Option is granted under and governed by the terms and conditions of the Plan and this Agreement, including exhibits hereto, all of which are made a part of this document. Participant has reviewed the Plan and this Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Agreement and fully understands all provisions of the Plan and Agreement. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator upon any questions relating to the Plan and Agreement. Participant further agrees to notify the Company upon any change in the residence address indicated below.

PARTICIPANT NANOSTRING TECHNOLOGIES, INC.

Signature By
Name Title
Address:

EXHIBIT A

TERMS AND CONDITIONS OF STOCK OPTION GRANT

1. Grant of Option. The Company hereby grants to the Participant named in the Notice of Grant (the "Participant") an option (the "Option") to purchase the number of Shares, as set forth in the Notice of Grant, at the exercise price per Share set forth in the Notice of Grant (the "Exercise Price"), subject to all of the terms and conditions in this Agreement and the Plan, which is incorporated herein by reference. Subject to Section 18(c) of the Plan, in the event of a conflict between the terms and conditions of the Plan and the terms and conditions of this Agreement, the terms and conditions of the Plan will prevail.

2. Vesting Schedule. Except as provided in Section 3, the Option awarded by this Agreement will vest in accordance with the vesting provisions set forth in the Notice of Grant. Shares scheduled to vest on a certain date or upon the occurrence of a certain condition will not vest in Participant in accordance with any of the provisions of this Agreement, unless Participant will have been continuously a Service Provider from the Date of Grant until the date such vesting occurs.

3. Administrator Discretion. The Administrator, in its discretion, may accelerate the vesting of the balance, or some lesser portion of the balance, of the unvested Option at any time, subject to the terms of the Plan. If so accelerated, such Option will be considered as having vested as of the date specified by the Administrator.

4. Exercise of Option

(a) Right to Exercise. This Option may be exercised only within the term set out in the Notice of Grant, and may be exercised during such term only in accordance with the Plan and the terms of this Agreement.

(b) Method of Exercise. This Option is exercisable by delivery of an exercise notice, in the form attached as Exhibit B (the "Exercise Notice") or in a manner and pursuant to such procedures as the Administrator may determine, which will state the election to exercise the Option, the number of Shares in respect of which the Option is being exercised (the "Exercised Shares"), and such other representations and agreements as may be required by the Company pursuant to the provisions of the Plan. The Exercise Notice will be completed by Participant and delivered to the Company. The Exercise Notice will be accompanied by payment of the aggregate Exercise Price as to all Exercised Shares together with any applicable tax withholding. This Option will be deemed to be exercised upon receipt by the Company of such fully executed Exercise Notice accompanied by the aggregate Exercise Price.

5. Method of Payment. Payment of the aggregate Exercise Price will be by any of the following, or a combination thereof, at the election of Participant:

(c) cash;

(d) check;

(e) consideration received by the Company under a formal cashless exercise program adopted by the Company in connection with the Plan; or

(f) surrender of other Shares which have a Fair Market Value on the date of surrender equal to the aggregate Exercise Price of the Exercised Shares, provided that accepting such Shares, in the sole discretion of the Administrator, will not result in any adverse accounting consequences to the Company.

6. Tax Obligations

(g) Withholding of Taxes. Notwithstanding any contrary provision of this Agreement, no certificate representing the Shares will be issued to Participant, unless and until satisfactory arrangements (as determined by the Administrator) will have been made by Participant with respect to the payment of income, employment, social insurance, payroll and other taxes which the Company determines must be withheld with respect to such Shares. To the extent determined appropriate by the Company in its discretion, it will have the right (but not the obligation) to satisfy any tax withholding obligations by reducing the number of Shares otherwise deliverable to Participant. If Participant fails to make satisfactory arrangements for the payment of any required tax withholding obligations hereunder at the time of the Option exercise, Participant acknowledges and agrees that the Company may refuse to honor the exercise and refuse to deliver the Shares if such withholding amounts are not delivered at the time of exercise.

(h) Code Section 409A. Under Code Section 409A, an option that vests after December 31, 2004 (or that vested on or prior to such date but which was materially modified after October 3, 2004) that was granted with a per Share exercise price that is determined by the Internal Revenue Service (the "IRS") to be less than the Fair Market Value of a Share on the date of grant (a "Discount Option") may be considered "deferred compensation." A Discount Option may result in (i) income recognition by Participant prior to the exercise of the option, (ii) an additional twenty percent (20%) federal income

tax, and (iii) potential penalty and interest charges. The Discount Option may also result in additional state income, penalty and interest charges to the Participant. Participant acknowledges that the Company cannot and has not guaranteed that the IRS will agree that the per Share exercise price of this Option equals or exceeds the Fair Market Value of a Share on the Date of Grant in a later examination. Participant agrees that if the IRS determines that the Option was granted with a per Share exercise price that was less than the Fair Market Value of a Share on the date of grant, Participant will be solely responsible for Participant's costs related to such a determination.

7. Rights as Stockholder. Neither Participant nor any person claiming under or through Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until certificates representing such Shares will have been issued, recorded on the records of the Company or its transfer agents or registrars, and delivered to Participant. After such issuance, recordation and delivery, Participant will have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares.

8. No Guarantee of Continued Service. PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF SHARES PURSUANT TO THE VESTING SCHEDULE HEREOF IS EARNED ONLY BY CONTINUING AS A SERVICE PROVIDER AT THE WILL OF THE COMPANY (OR THE PARENT OR SUBSIDIARY EMPLOYING OR RETAINING PARTICIPANT) AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THIS OPTION OR ACQUIRING SHARES HEREUNDER. PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THIS AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND WILL NOT INTERFERE IN ANY WAY WITH PARTICIPANT'S RIGHT OR THE RIGHT OF THE COMPANY (OR THE PARENT OR SUBSIDIARY EMPLOYING OR RETAINING PARTICIPANT) TO TERMINATE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER AT ANY TIME, WITH OR WITHOUT CAUSE.

9. Address for Notices. Any notice to be given to the Company under the terms of this Agreement will be addressed to the Company at NanoString Technologies, Inc., 530 Fairview Avenue North, Seattle, WA 98109, or at such other address as the Company may hereafter designate in writing.

10. Non-Transferability of Option. This Option may not be transferred in any manner otherwise than by will or by the laws of descent or distribution and may be exercised during the lifetime of Participant only by Participant.

11. Binding Agreement. Subject to the limitation on the transferability of this grant contained herein, this Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

12. Additional Conditions to Issuance of Stock. If at any time the Company will determine, in its discretion, that the listing, registration, qualification or rule compliance of the Shares upon any securities exchange or under any state, federal or foreign law, the tax code and related regulations or the consent or approval of any governmental regulatory authority is necessary or desirable as a condition to the purchase by, or issuance of Shares to, Participant (or his or her estate) hereunder, such purchase or issuance will not occur unless and until such listing, registration, qualification, rule compliance, consent or approval will have been completed, effected or obtained free of any conditions not acceptable to the Company. The Company will make all reasonable efforts to meet the requirements of any such state, federal or foreign law or securities exchange and to obtain any such consent or approval of any such governmental authority or securities exchange. Assuming such compliance, for income tax purposes the Exercised Shares will be considered transferred to Participant on the date the Option is exercised with respect to such Exercised Shares.

13. Plan Governs. This Agreement is subject to all terms and provisions of the Plan. In the event of a conflict between one or more provisions of this Agreement and one or more provisions of the Plan, the provisions of the Plan will govern. Capitalized terms used and not defined in this Agreement will have the meaning set forth in the Plan.

14. Administrator Authority. The Administrator will have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination of whether or not any Shares subject to the Option have vested). All actions taken and all interpretations and determinations made by the Administrator in good faith will be final and binding upon Participant, the Company and all other interested persons. No member of the Administrator will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Agreement.

15. Electronic Delivery. The Company may, in its sole discretion, decide to deliver any documents related to Options awarded under the Plan or future options that may be awarded under the Plan by electronic means or request Participant's

consent to participate in the Plan by electronic means. Participant hereby consents to receive such documents by electronic delivery and agrees to participate in the Plan through any on-line or electronic system established and maintained by the Company or another third party designated by the Company.

16. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

17. Agreement Severable. In the event that any provision in this Agreement will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Agreement.

18. Modifications to the Agreement. This Agreement constitutes the entire understanding of the parties on the subjects covered. Participant expressly warrants that he or she is not accepting this Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Agreement, the Company reserves the right to revise this Agreement as it deems necessary or advisable, in its sole discretion and without the consent of Participant, to comply with Code Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Section 409A of the Code in connection to this Option.

19. Amendment, Suspension or Termination of the Plan. By accepting this Award, Participant expressly warrants that he or she has received an Option under the Plan, and has received, read and understood a description of the Plan. Participant understands that the Plan is discretionary in nature and may be amended, suspended or terminated by the Company at any time.

20. Governing Law. This Agreement will be governed by the laws of Washington, without giving effect to the conflict of law principles thereof. For purposes of litigating any dispute that arises under this Award of an Option or this Agreement, the parties hereby submit to and consent to the jurisdiction of the State of Washington, and agree that such litigation will be conducted in the courts of King County, Washington, or the federal courts for the United States for the District of Washington, and no other courts, where this Award of an Option is made and/or to be performed.

EXHIBIT B
NANOSTRING TECHNOLOGIES, INC.
2018 INDUCEMENT EQUITY INCENTIVE PLAN
EXERCISE NOTICE

NanoString Technologies, Inc.
530 Fairview Avenue North
Seattle, WA 98109

Attention: Stock Administration

1. Exercise of Option. Effective as of today, _____, _____, the undersigned ("Purchaser") hereby elects to purchase _____ shares (the "Shares") of the Common Stock of NanoString Technologies, Inc. (the "Company") under and pursuant to the 2018 Inducement Equity Incentive Plan (the "Plan") and the Stock Option Agreement dated _____, _____, (the "Agreement"). The purchase price for the Shares will be \$ _____, as required by the Agreement.

2. Delivery of Payment. Purchaser herewith delivers to the Company the full purchase price of the Shares and any required tax withholding to be paid in connection with the exercise of the Option.

3. Representations of Purchaser. Purchaser acknowledges that Purchaser has received, read and understood the Plan and the Agreement and agrees to abide by and be bound by their terms and conditions.

4. Rights as Stockholder. Until the issuance (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company) of the Shares, no right to vote or receive dividends or any other rights as a stockholder will exist with respect to the Shares subject to the Option, notwithstanding the exercise of the Option. The Shares so acquired will be issued to Purchaser as soon as practicable after exercise of the Option. No adjustment will be made for a dividend or other right for which the record date is prior to the date of issuance, except as provided in Section 13 of the Plan.

5. Tax Consultation. Purchaser understands that Purchaser may suffer adverse tax consequences as a result of Purchaser's purchase or disposition of the Shares. Purchaser represents that Purchaser has consulted with any tax consultants Purchaser deems advisable in connection with the purchase or disposition of the Shares and that Purchaser is not relying on the Company for any tax advice.

6. Entire Agreement; Governing Law. The Plan and Agreement are incorporated herein by reference. This Exercise Notice, the Plan and the Agreement constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and Purchaser with respect to the subject matter hereof, and may not be modified adversely to the Purchaser's interest except by means of a writing signed by the Company and Purchaser. This agreement is governed by the internal substantive laws, but not the choice of law rules, of Washington.

Submitted by:	Accepted by:
PURCHASER	NANOSTRING TECHNOLOGIES, INC.

Signature By

Print Name Its

Address:

Date Received

Consent of 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 Nos. 333-194844, 333-202768, 333-210210, 333-216584, 333-222567, 333-230201, 333-236845, 333-253737, and 333-263183 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-8 No. 333-265702 pertaining to the 2022 Equity Incentive Plan

of our reports dated February 28, 2023, 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, 2022.

/s/ Ernst & Young LLP

Seattle, Washington
February 28, 2023

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: February 28, 2023

/s/ R. Bradley Gray

R. Bradley Gray

President and Chief Executive Officer

(Principal Executive Officer)

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: February 28, 2023

/s/ K. Thomas Bailey

K. Thomas Bailey

Chief Financial Officer

(Principal Financial and Accounting Officer)

**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, 2022, 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: February 28, 2023

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.

**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, 2022, 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: February 28, 2023

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.