



PROSPECTUS

**INVITAE CORPORATION**  
**1,479,188 SHARES OF COMMON STOCK**

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On November 14, 2017, pursuant to the Agreement and Plan of Merger (the “Merger Agreement”), dated as of July 31, 2017, by and among Invitae, CombiMatrix Corporation (“CombiMatrix”) and Coronado Merger Sub, Inc. (“Merger Sub”), Merger Sub merged with and into CombiMatrix, with CombiMatrix surviving as a wholly owned subsidiary of Invitae (the “Merger”).

Pursuant to the Merger Agreement, as described in the Registration Statement on Form S-4 (Registration No. 333-220447) filed by Invitae (the “Form S-4”), which became effective on October 5, 2017, at the effective time of the Merger (the “Effective Time”), each outstanding and unexercised Series F warrant to purchase shares of common stock, \$0.001 par value per share, of CombiMatrix (“CombiMatrix common stock”), issued by CombiMatrix (each, a “CombiMatrix Series F warrant”) was assumed by Invitae and converted into a warrant (an “Invitae Series F warrant”) to acquire (i) that number of whole shares of common stock, \$0.0001 par value per share, of Invitae (“Invitae common stock”) equal to the product of (x) the number of shares of CombiMatrix common stock subject to such CombiMatrix Series F warrant immediately prior to the Effective Time multiplied by (y) 0.869244 (the “Merger Exchange Ratio”), (ii) at an exercise price per share of Invitae common stock equal to the quotient of (x) the exercise price per share of CombiMatrix common stock for such CombiMatrix Series F warrant of \$5.17, divided by (y) the Merger Exchange Ratio, resulting in an adjusted exercise price of \$5.95 per share for the Series F warrants. Each CombiMatrix Series F warrant assumed and converted into an Invitae Series F warrant continues to have, and is subject to, substantially the same terms and conditions as applied to such CombiMatrix Series F warrants immediately prior to the Effective Time. The Series F warrants expire on March 24, 2021.

This prospectus relates to the offer and sale of an aggregate of 1,479,188 shares of Invitae common stock which are issuable upon the exercise of outstanding Invitae Series F warrants.

Shares of Invitae common stock are traded under the symbol “NVTA” on the New York Stock Exchange.

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**Investing in these securities involves risks. See “Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2017 and in other documents that we subsequently file with the Securities and Exchange Commission which are incorporated by reference into this prospectus.**

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

The date of this prospectus is May 2, 2018

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### ABOUT THIS PROSPECTUS

Unless the context otherwise requires, references in this prospectus to “Invitae,” “we,” “us” and “our” refer to Invitae Corporation and its subsidiaries.

Invitae and the Invitae logo are our trademarks. This prospectus and the documents incorporated by reference into this prospectus may also contain trademarks and trade names that are the property of their respective owners. We do not intend our use or display of other companies’ trade names, trademarks or service marks to imply relationships with, or endorsements or sponsorship of us by, these other companies.

We have not authorized anyone to provide any information other than that contained or incorporated by reference in this prospectus, any applicable prospectus supplement or any free writing prospectus prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information in this prospectus and any prospectus supplement, or incorporated by reference, is accurate only as of the dates of those documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

## PROSPECTUS SUMMARY

*This summary contains basic information about us and this offering. Because it is a summary, it does not contain all of the information that you should consider before investing in shares of Invitae common stock. You should read this entire prospectus and the documents incorporated by reference carefully, including the section entitled “Risk Factors” in our Annual Report on Form 10-K and any updates to such risks in subsequently filed Quarterly Reports on Form 10-Q, the section entitled “Risk Factors” in our Registration Statement on Form S-4 (Registration No. 333-220447) and our financial statements and the notes thereto incorporated by reference into this prospectus before making an investment decision.*

### Invitae Corporation

#### Our Company

Our mission is to bring comprehensive genetic information into mainstream medical practice to improve the quality of healthcare for billions of people. Combining genetic testing services that support patient care throughout life’s journey – from family planning, to proactive health screening, to inherited disease diagnosis – with a unique, rapidly expanding network of patients, healthcare providers, biopharma and advocacy partners, we seek to capture the broad potential of genetics and expand its use across the healthcare continuum.

We are aiming to combine genetic information and clinical data into a seamless genome network to accelerate research, clinical trials and disease management. Through the custom design and application of automation, robotics and bioinformatics software solutions tailored to the complexity of sample processing and complex variant interpretation, we believe we can apply our world-class clinical expertise to medical interpretation at scale, simplifying the process of obtaining and utilizing affordable, high-quality genetic information to inform critical healthcare decisions. By pioneering new ways of sharing and understanding genetic information, we believe we are transforming the field of genetics from one-dimensional testing to complex information management.

We launched our first commercial offering in November 2013 with an offering of approximately 200 genes and have grown our test menu over time to include more than 20,000 genes. Since our commercial launch through December 31, 2017, we have delivered a total of approximately 220,000 test reports. In 2017, we accessioned approximately 150,000 samples and generated revenue of approximately \$68.2 million reflecting more than a 150% and 170% increase over 2016 volume and revenue, respectively. In 2017, we achieved a full-year gross profit of \$18.1 million, compared to a full-year gross loss of \$2.8 million in 2016. In support of our efforts to reduce cost per test, expand our test menu and develop a scalable laboratory infrastructure, we incurred research and development expenses of \$46.5 million, \$44.6 million and \$42.8 million in 2017, 2016 and 2015, respectively. At December 31, 2017, we had an accumulated deficit of \$398.6 million. We increased our number of employees to 594 at December 31, 2017 from 332 at December 31, 2016. Our sales force almost doubled to over 100 at December 31, 2017 from just over 50 at December 31, 2016. We expect headcount will continue to increase in 2018 as we add staff to support anticipated growth.

Our rapid growth in diagnostic testing has accelerated the transition of our business from a traditional sample-by-sample, indication-by-indication, test-by-test market to an extensive, highly-accurate and accessible network focused on utilization of genetics in personal healthcare. Our value proposition for customers is simple: Genetic information is more valuable when shared.

We began by building out our initial offering in competitive and technically challenging clinical areas, including comprehensive panels for hundreds of hereditary conditions in cancer, cardiology, neurology, pediatrics and rare diseases. In 2017, we expanded our platform of clinical testing services to include assays totaling over 20,000 genes, including our medical exome, and began offering tests that could be used for proactive health and wellness screening. While we have expanded the breadth and complexity of our testing capabilities, we have also invested in a series of process improvements that have enabled us to maintain our strategy to lower the cost and improve access to genetic testing.

In January 2017, we acquired AltaVoice, a patient-centered data company with a global platform for collecting, curating, coordinating and delivering safeguarded data from patients and clinicians. This acquisition expands our genome network, designed to connect patients, clinicians, advocacy organizations, researchers and therapeutic developers to accelerate the understanding, diagnosis and treatment of hereditary disease. In June 2017, we acquired Ommdom, Inc., a company that develops, commercializes and sells hereditary risk assessment and management software, including CancerGene Connect, a cancer genetic counseling platform. The acquisition of Ommdom expands our suite of genome management offerings designed to help patients and clinicians use genetic information as part of mainstream medical care.

We also established a position in family health genetic information services through the strategic acquisition of reproductive health testing capabilities. In August 2017, we acquired Good Start Genetics, Inc., a molecular diagnostics company focused on preimplantation and carrier screening for inherited disorders. Good Start's next-generation sequencing offerings include carrier screening and preimplantation embryo testing, which provide women, their partners and their clinicians with insightful and actionable information to promote successful pregnancies and help build healthy families. In November 2017, we acquired CombiMatrix Corporation, a company which specializes in prenatal diagnosis, miscarriage analysis and pediatric developmental disorders. CombiMatrix's services include advanced technologies, such as single nucleotide polymorphism chromosomal microarray analysis, next generation sequencing, and expertise handling a variety of technically challenging sample types.

We have employed a disciplined approach to our acquisitions and have developed experience integrating acquisitions onto our platform. Through our approach, we have benefited from the advantages of scale, enabling us to lower cost of goods, leverage our operating infrastructure, increase cash flow and accelerate development of our capabilities. We intend to continue to invest in our business and may partner with companies or pursue acquisitions that complement our test offerings and capabilities.

In addition to investing in platform content, informatics solutions and infrastructure to support network development, we have continued to expand our genome network by partnering with biopharmaceutical companies, including Alnylam Pharmaceuticals, Inc., Ariad Pharmaceuticals, Inc. (a subsidiary of Takeda Pharmaceutical Company Limited), AstraZeneca and Merck & Co., Inc., BioMarin Pharmaceutical Inc., Blueprint Medicines Corporation, Jazz Pharmaceuticals plc, MyoKardia, Inc., Parion Sciences, Inc. and others to support clinical trial recruitment and other initiatives. Our biopharmaceutical industry partnerships are complemented by partnerships with leading health systems, executive health programs and leading research institutions, including the Geisinger Health System, the Mayo Clinic, Memorial Sloan Kettering Cancer Center, MedCan, NorthShore University HealthSystem and Stanford Health Care, among others.

We plan to invest in expanding this network, which we believe will help connect patients with potential treatments, clinical trials, researchers, clinicians, advocacy organizations and other resources to help inform and improve patients' health.

We believe that the keys to our future growth will be to steadily increase the amount of genetic content we offer, consistently improve the client experience, drive physician and patient utilization of our website for ordering and delivery of results, achieve broad reimbursement coverage for our tests from third-party payers, increase the number of strategic partners working with us to add value for our clients, and consistently drive down the price per gene for genetic analysis and interpretation.

For further discussion of the material elements of our business, please refer to our Annual Report on Form 10-K for the year ended December 31, 2017, and any subsequent reports we file with the Securities and Exchange Commission (the "SEC"), which are incorporated by reference in this prospectus.

Our principal executive offices are located at 1400 16th Street, San Francisco, CA 94103. Our telephone number is (415) 374-7782.

**CombiMatrix Series F Warrants**

On November 14, 2017, pursuant to the Merger Agreement, Merger Sub merged with and into CombiMatrix, with CombiMatrix surviving as a wholly owned subsidiary of Invitae. Pursuant to the Merger Agreement, Invitae assumed all outstanding and unexercised Series F warrants to acquire shares of CombiMatrix common stock previously issued by CombiMatrix, and such warrants were converted into warrants to acquire (i) that number of whole shares of Invitae common stock equal to the product of (x) the number of shares of CombiMatrix common stock subject to such CombiMatrix Series F warrant immediately prior to the effective time multiplied by (y) 0.869244 (the “Merger Exchange Ratio”), (ii) at an exercise price per share of Invitae common stock equal to the quotient of (x) the exercise price per share of CombiMatrix common stock for such CombiMatrix Series F warrant of \$5.17, divided by (y) the Merger Exchange Ratio, resulting in an adjusted exercise price of \$5.95 for the Series F warrants. Each CombiMatrix Series F warrant assumed and converted into an Invitae Series F warrant continues to have, and is subject to, substantially the same terms and conditions as applied to such CombiMatrix Series F warrants immediately prior to the effective time. The Series F warrants expire on March 24, 2021.

## THE OFFERING

<b>Issuer</b>	Invitae Corporation
<b>Common stock offered</b>	This prospectus relates to the offer and sale of an aggregate of 1,479,188 shares of Invitae common stock which are issuable upon the exercise of outstanding Series F warrants assumed by Invitae in connection with the Merger.
<b>Use of proceeds</b>	We will not receive any proceeds from the sale of shares of Invitae common stock covered by this prospectus other than proceeds from the exercise of the Series F warrants whose underlying shares of Invitae common stock are covered by this prospectus. We have no plans for the application of any of these proceeds other than for general corporate purposes.
<b>Risk factors</b>	See “Risk Factors” for a discussion of factors you should consider carefully before deciding to invest in our common stock.
<b>NYSE trading symbol</b>	“NVTA”

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## **RISK FACTORS**

Investing in Invitae is subject to uncertainties and risks. You should carefully consider and evaluate all of the information included and incorporated by reference in this prospectus, including the risk factors incorporated by reference from Invitae's Annual Report on Form 10-K for the year ended December 31, 2017 under the section entitled "Item 1A. Risk Factors," from time to time in other filings with the SEC, and from Invitae's Registration Statement on Form S-4 (Registration No. 333-220447), filed with the SEC on September 13, 2017, as amended, under the section entitled "Risk Factors." We encourage you to read these risk factors in their entirety. In addition to these risks, other risks and uncertainties not presently known to us or that we currently deem immaterial may also adversely affect our business operations and financial condition. Such risks could cause actual results to differ materially from anticipated results. This could cause the trading price of shares of Invitae common stock to decline, perhaps significantly, and you may lose part or all of your investment.

## **CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS**

When used in this prospectus, the words "expects," "believes," "anticipates," "estimates," "may," "could," "intends," and similar expressions are intended to identify forward-looking statements. These statements are subject to known and unknown risks and uncertainties that could cause actual results to differ materially from those projected or otherwise implied by the forward-looking statements. These forward-looking statements speak only as of the date of this prospectus. Given these risks and uncertainties, you should not place undue reliance on these forward-looking statements. Additional cautionary statements or discussions of risks and uncertainties that could affect our results or the achievement of the expectations described in forward-looking statements are contained in the documents we incorporate by reference into this prospectus.

These forward-looking statements speak only as of the date of this prospectus. We expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in our expectations with regard thereto or any change in events, conditions or circumstances on which any such statements are based. You should, however, review additional disclosures we make in our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K filed with the SEC.

## **USE OF PROCEEDS**

We will not receive any proceeds from the sale of shares of Invitae common stock covered by this prospectus other than proceeds from the exercise of the Series F warrants whose underlying shares of Invitae common stock are covered by this prospectus. We have no plans for the application of any of these proceeds other than for general corporate purposes. We have no assurance that any of the Series F warrants will be exercised.

## **PLAN OF DISTRIBUTION**

We are registering an aggregate of 1,479,188 shares of Invitae common stock which are issuable upon the exercise of outstanding Series F warrants.

Pursuant to the terms of the Series F warrants, shares of Invitae common stock will be issued to the warrant holder that elects to exercise and provide payment of the exercise price. We do not know if or when the any of the Series F warrants will be exercised. We also do not know whether any of the shares of Invitae common stock acquired upon exercise of any Series F warrants will subsequently be resold. We are not using an underwriter in connection with this offering.

## **LEGAL MATTERS**

The validity of the common stock offered by this prospectus will be passed upon for us by Pillsbury Winthrop Shaw Pittman LLP.

## EXPERTS

Ernst & Young LLP, independent registered public accounting firm, has audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2017, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in this registration statement. Our consolidated financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

The consolidated financial statements of CombiMatrix Corporation as of December 31, 2016 and for the year then ended incorporated by reference in this prospectus have been incorporated by reference in reliance upon the report of Haskell & White LLP, an independent registered public accounting firm, and given on the authority of said firm as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-3 with the SEC under the Securities Act. This prospectus is part of the registration statement but the registration statement includes and incorporates by reference additional information and exhibits. We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy the registration statement and any other document we file with the SEC at the public reference room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the public reference room by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website that contains reports, proxy and information statements and other information regarding companies, such as ours, that file documents electronically with the SEC. The address of that website is <http://www.sec.gov>. The information on the SEC's website is not part of this prospectus, and any references to this website or any other website are inactive textual references only.

Investors may also consult Invitae's website for more information about Invitae. Invitae's website is [www.invitae.com](http://www.invitae.com). Information included on this website is not incorporated by reference into this prospectus.

## INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with it, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this prospectus, except for any information superseded by information contained directly in this prospectus or in later filed documents incorporated by reference in this prospectus. The following documents previously filed with the SEC are incorporated by reference (other than information in such filings deemed, under SEC rules or otherwise, not to have been filed with the SEC):

- our Annual Report on Form 10-K for the year ended December 31, 2017;
- our Current Reports on Form 8-K filed on November 15, 2017 (as amended on January 26, 2018 and March 6, 2018), February 28, 2018, March 13, 2018 and April 2, 2018;
- the description of our common stock contained in our Registration Statement on Form 8-A filed on February 11, 2015, including any amendment or report filed for the purpose of updating such description; and
- the section entitled "Risk Factors" contained in our Registration Statement on Form S-4 (Registration No. 333-220447) filed with the SEC on September 13, 2017, as amended, and any amendment or report filed for the purpose of updating such section.

In addition, all future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 that are made after the initial filing date of the registration statement of which this prospectus is a part and the effectiveness of the registration statement, as well as between the date of this prospectus and the termination of any offering of securities offered by this prospectus (other than information in such future filings deemed, under SEC rules or otherwise, not to have been filed with the SEC), shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing of such documents. Information filed with the SEC after the date of this prospectus will automatically update and supersede information contained in or previously incorporated by reference in this prospectus.

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We will provide without charge to each person (including any beneficial owner) who receives a copy of this prospectus, upon the written or oral request of any such person, a copy of any or all of these filings (other than exhibits to such documents, unless that exhibit is specifically incorporated by reference to that filing). Requests should be directed to:

Invitae Corporation  
Attention: Investor Relations  
1400 16th Street, San Francisco, CA 94103.  
Telephone: (415) 374-7782

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**PROSPECTUS**

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**COMMON STOCK**

**INVITAE CORPORATION**

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