

Genomics for Good

Illumina Corporate Social Responsibility
Summary Report 2024

Read the full report [here](#).



Message from our CEO

Every minute in the year 2024, 10 human genomes were sequenced on Illumina platforms. That statistic astounds me—and yet most people do not have access to genomics or precision medicine.

At Illumina, our strategy focuses on leading the next era of multiomic growth. That means making next-generation sequencing easy for clinicians, enabling researchers to unlock deeper biology, and using AI to transform data into valuable insights.

Beyond challenges in disease and medicine, there are also logistical and societal barriers for communities and even entire populations. For those of us at Illumina, these factors drive us not only to create greater, faster, more cost-effective instruments, but to expand our partnerships and increase our efforts in education and patient advocacy.

Our market access teams generate evidence to help increase payer coverage—in 2024, that figure reached 1.4 billion lives covered for at least one genetic test. Last year, we also announced several partnerships designed to broaden access to advanced technologies and genomic data. We expanded the Alliance for Genomic Discovery to continue funding the whole-genome sequencing of 250,000 DNA samples, which will produce more thoroughly representational data for use in drug discovery and therapeutic development.

Last fall, we launched the MiSeq i100 Series, a fast and easy-to-use benchtop sequencer that will expand access to genomics in emerging markets. Now a researcher with fewer resources in a remote



Jacob Thaysen
Chief Executive Officer

lab can install the instrument on their own and start a run that day. Perhaps best of all, compared to the original MiSeq System,* the new instrument is four times faster, requires 85% less packaging, and its consumables can be shipped and stored at room temperature, resulting in an overall 35% lower carbon footprint.† The new MiSeq i100 Series is one example of our commitment to implementing sustainable solutions, not just in our products, but in our facilities and across our value chain.

“Our strategy focuses on leading the next era of multiomic growth. That means making next-generation sequencing easy for clinicians, enabling researchers to unlock deeper biology, and using AI to transform data into valuable insights.”

Jacob Thaysen, Chief Executive Officer

How CSR drives value to Illumina and its stakeholders

We are always working to provide holistic solutions to the barriers around genomics and precision medicine. With our donation of products, support, and expertise, the Africa Pathogen Genomics Initiative has now installed 22 sequencing instruments in 19 countries on the continent. We also continue to support the iHope Genetic Health program, which brought clinical genomic testing to more than 500 underserved families in eight countries.

Illumina employees are mission driven, and they are passionate about making a difference in their communities. I'm particularly proud of Illumina's culture of giving. In 2024, our employees supported more than 1300 organizations through donations and volunteerism, and we boasted our highest-ever participation rate in employee volunteering. One of the most enduring and popular activities our teams enjoy is introducing local students to genomics.

Through various programs, we have reached 2.1 million STEM learners globally since 2019.

We apply the same energy we have for educating the next generation of scientists to managing the next generation of new technologies. As pioneers in multiomics, we are committed to upholding the highest standards for genomic data privacy and cybersecurity, and we require this commitment from our suppliers as well, all of whom must adhere to our Supplier Code of Conduct. We take the utmost care in the ethical use of sequencing technologies as well as our artificial intelligence systems. Our machine learning and predictive modeling systems can fuel data insights and improve understanding of genomic variation in relation to human health. As a data-driven, science-based organization, we take great strides to reduce our environmental impact. For the third consecutive year, Illumina achieved our 2030 goal to source 100% of our global electricity from renewable sources.**

Our 2024 CSR Report outlines our strong momentum and focus. I hope you will recognize our enthusiasm for the power of genomics and understand that, while we're proud to have met so many of our stated goals, we know this is just one moment in a much greater story. Finally, I'd like to thank our customers, partners, and employees around the world for joining us in helping to improve human health for all.

Jacob Thaysen
Chief Executive Officer

*Based on shipping weight compared to MiSeq System consumables.

†Based on comparison of MiSeq reagent kits to MiSeq i100 reagent kits per one Gb of genetic code, measured in Global Warming Potential through an internal streamline life cycle assessment (LCA) study, aligned with the methodological requirements and guidelines of the International Organization for Standardization (ISO) standards ISO 14040 (2006a) and ISO 14044 (2006b) on LCA and the Greenhouse Gas (GHG) Protocol Product Life Cycle Accounting and Report Standard (WRI/WBCSD, 2011). As a streamlined LCA study, it does not fulfill all of the reporting requirements of these standards, including third-party review.

**Through on-site generation, purchased renewable electricity, and renewable energy credits.

The next breakthrough begins here

Together, we are unlocking the power of the genome to improve human health for all.

We are Illumina

We are leading the sequencing industry and pioneering the next frontiers of discovery and precision health.

We develop DNA sequencing and array-based life sciences technologies to enable boundless research discovery and personalized health.

Our products help pioneer advances in oncology, genetic and infectious diseases, reproductive health, and beyond.

Our technology empowers continued innovation toward positive and impactful people- and planet-healing solutions.

OUR MISSION

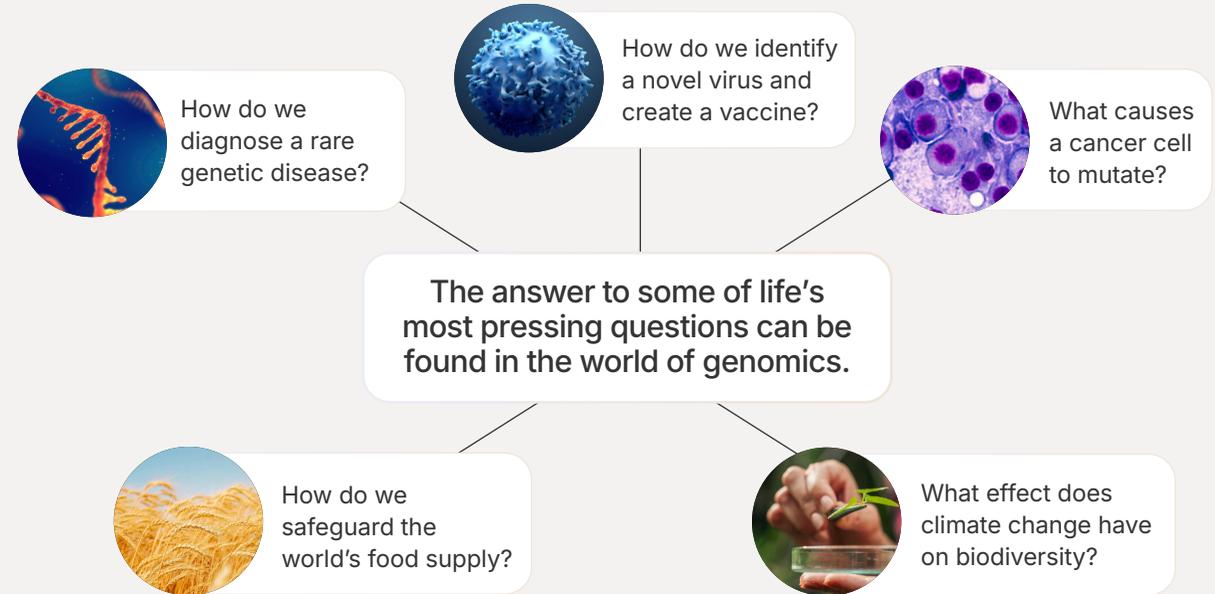
To improve human health by unlocking the power of the genome.

OUR PURPOSE

Drive the positive progress of genomics to make it useful for all.

OUR PROMISE

We pioneer breakthroughs that redefine what's possible in genomics and accelerate impactful health advances globally.



What we stand for

Our commitment to life-changing discovery and better health is driven by our passion for continual innovation and deep collaboration. Our actions are guided by these five principles:



Expand access

Realizing the potential of the genome to save and improve lives hinges on making genomics available to all. That's why we are committed to delivering the best total cost of workflow, expanding access to advanced technology, and increasing the diversity of genomics data.



Redefine possible

We believe the genome has the potential to solve humanity's greatest challenges, and we are committed to creating a culture where innovation can thrive to achieve this. We relentlessly push the boundaries of what is possible to give our customers the integrated tools they need to turn barriers into breakthroughs.



Accelerate customer-centric advances

As the industry leader, we have a responsibility to set the standard for customer-centric innovations. By anticipating needs and delivering solutions that address real challenges, we're removing constraints and enabling researchers and clinicians to make life-changing breakthroughs and decisions.



Partner for progress

Improving health at scale requires vision and strategic partnership. We are inspired by the vision of changemakers across the ecosystem and are proud to serve as the convening force to make these visions a reality. Together, we are driving forward the adoption of genomics and broadening its impact around the world.



Act with integrity to benefit humanity

Putting people first and doing the right thing are core to who we are and what we do—from who we engage with, to how we operate, to what we bring to market. We hold ourselves to the highest standards in our actions: rooted in insights, committed to transparency, and connected by a dedication to genomics for good.

Business overview

ILLUMINA AT A GLANCE

1998
founding year

San Diego, CA
headquarters

~9000
employees*

~\$4.3 billion
2024 revenue

~645,000
sequencing publications*

~9300
patents worldwide*

>22,000
active installed base*

165+
countries receive our products*

*as of FY24

WHERE WE OPERATE



SEQUENCING SYSTEMS

Next-generation sequencing (NGS) is revolutionizing research, enabling experiments that weren't possible before. Illumina offers a range of innovative NGS platforms that deliver exceptional data quality and accuracy, at a massive scale.

HIGH-THROUGHPUT



NovaSeq™ X Series NovaSeq™ 6000

MID-THROUGHPUT



NextSeq™ 1000 NextSeq™ 2000 NextSeq™ 550 NextSeq™ 500

LOW-THROUGHPUT



MiSeq™ i100 Series iSeq™ 100 MiniSeq™ MiSeq™

DIAGNOSTIC



NovaSeq™ 6000Dx NextSeq™ 550Dx MiSeq™ Dx

Strategy 2027: Forward Together. Progress for All.

With Strategy 2027, we are pioneering the next era of omics with the most innovative, accessible, and complete solutions for researchers and clinicians around the world to transform biology and embed sequencing in health care.

We are reinventing the genome to deliver an unparalleled, more complete understanding with complete multiomic solutions along with data and AI to unlock deeper biological insights.

We are partnering across our global ecosystem to help our customers access the best capabilities across the industry to make their breakthroughs possible.

We are openly engaging our customers in our innovations and centering their needs in every innovation, partnership, and solution to differentiate from competition and offer the most transformative omic capabilities.

Where we are going

Unlocking the secrets of our cells and genes is transforming every facet of health, and making the genome era a reality. We see a future where "sick care" truly becomes health care. Where breakthroughs transform how we understand biology. Where improving health through the power of the genome becomes routine.

And we see Illumina as a central force catalyzing that future.

We're taking our innovative spirit farther than ever before, unleashing it beyond the technology we build and embedding it into everything we do—the services we provide, the insights we deliver, the ways we work, and the partnerships we foster.

Our vision for 2030



Whole genome sequencing is the clinical standard of care for diagnostics—routinely adopted in hospitals around the world



Scientists adopt multiomics at scale—catalyzing deeper biology and scientific breakthroughs



National health systems move from "sick care" to personalized health care—broadly adopting NGS across health care systems

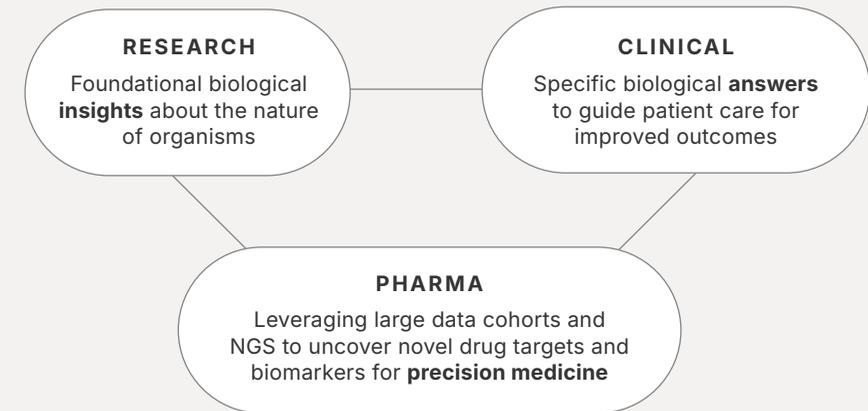


Pharma accelerates drug discovery and precision medicine—leveraging AI-powered large cohort analysis

We serve distinct customer segments that reinforce one another

Our foundational aspiration is to enable the global omics ecosystem with high-resolution, high-intensity sequencing applications and deep insights. Beyond this, we are focused on supporting assays that will make omics the standard of care across our lifetime journey. Discoveries are made and care is transformed when visionary people around the world have the full power of omic information at their fingertips, and we are relentless in our effort to unlock that power for each customer segment we support.

Core science learnings and novel therapeutics open the door to clinical applications



Our 2027 strategy

With Strategy 2027, we're building the innovations, partnerships, and solutions to deliver the highest quality biological insights at the lowest end-to-end cost to the researchers and clinicians who are transforming human health globally.

Whole genome
Reinvent the genome

Multomics
Unlock deeper biology

Clinical
Make NGS easy

Software and AI
Transform data into insights

HIGH-RESOLUTION, HIGH-THROUGHPUT SEQUENCING TECHNOLOGY

ENABLERS

- ✓ Make customers heroes
- ✓ Partner for innovation
- ✓ Differentiate from competition

PINNACLE

Comprehensive execution program to build, implement, and track all key strategic initiatives

2024 CSR highlights

~1.4 billion

lives covered for genomic testing as of FY24

FDA approved

in vitro diagnostic TruSight™ Oncology Comprehensive test and its first two companion diagnostic indications

Launched

the MiSeq i100 Series



10

human genomes sequenced on Illumina platforms every minute



My Green Lab certified 5 global labs and 1 ACT label

Ranked as the **fifth most sustainable** company by TIME

Completed

life-cycle assessment (LCA) of MiSeq i100 Series demonstrating a 35%* reduction in climate impact

91%

independent Board of Directors (all independent with exception of CEO)



Zero

net pay gap maintained for sixth consecutive year

52%

employee participation in giving and volunteer programs

535,216

STEM learners reached

92%

of employees feel their managers support balancing work and personal life



Received high marks on leading ESG ratings in 2024:



B
(climate)



Sustainability Yearbook Member for fourth consecutive year



Included sixth consecutive year



Silver (72/100) Top 15%



Included (3.9/5) for fifth consecutive year



C+ Prime



A



18.4 categorized as low risk



Included

Additional awards and recognitions

- AmCham Corporate and Societal Action: Recognition for Excellence in Singapore (CARES) Awards
- Disability Equality Index
- Human Rights Campaign Corporate Equality Index
- Military Times: Best for Vets
- JUST Capital and CNBC: Most Just
- Newsweek: Greenest Companies; Most Responsible Companies; Excellence Index
- Singapore Champions of Good
- TIME: Most Sustainable Companies
- 3BL: Top 100 Best Corporate Citizens
- USA Today: America's Climate Leaders
- U.S. News & World Report: Best Companies To Work For: Best Companies; Best Companies in the West; Best in Pharmaceuticals and Health Products

*Based on comparison of MiSeq reagent kits to MiSeq i100 reagent kits per 1 gigabase (Gb) of genetic code; measured in Global Warming Potential through an LCA aligned with the methodological requirements and guidelines of the ISO standards ISO 14040 (2006a) and ISO 14044 (2006b) on LCA and the GHG Protocol Product Life Cycle Accounting and Report Standard (WRI/WBCSD, 2011). However, as it is a streamlined LCA study, it does not fulfill all of the reporting requirements of these standards.

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CSR strategy

Governed by our Board of Directors and guided by the input of our stakeholders, our CSR strategy is integrated into our business strategy and promotes the sustainable stewardship of the company. It provides a clear approach to how we manage risks and opportunities for long-term value. Our CSR strategy takes shape across four focus areas, each with respective objectives for how we create value:

Accelerate access to genomics – Realizing the potential of the genome to save and improve lives hinges on making genomics available to all. That’s why we are committed to delivering the best total cost of workflow, expanding access to advanced technology, and increasing the diversity of genomics data.

KEY OBJECTIVES

- Be the engine of genomic innovation
- Drive down the total cost of sequencing
- Increase the accessibility of genomics

Nurture our people and communities – Our extraordinary mission requires extraordinary people and leaders at every level. We are committed to creating a workplace centered on innovation and care that values the unique talents of the individual, brings forward the best of the collective, and delivers on the Illumina mission at a global scale. Together our impact is amplified, and our potential is unlimited.

KEY OBJECTIVES

- Invest in our people
- Support employee health, well-being, and safety
- Engage our employees and communities

Integrate sustainability – Human health and the health of our environment are intertwined, which is why we prioritize taking action on climate change and implementing sustainable solutions in our facilities, in our products, and across our value chain. We also empower our customers to unlock innovative solutions to the planet’s most pressing issues through genomics.

KEY OBJECTIVES

- Drive climate action across our value chain
- Operate sustainable facilities
- Develop sustainable products
- Leverage genomics for sustainable applications

Operate responsibly – Doing the right thing is core to who we are and what we do. As genomic pioneers, we have an unrelenting dedication to genomics for good, and hold ourselves to the highest standards in ethics, privacy, and security.

KEY OBJECTIVES

- Practice strong corporate governance and compliance
- Act ethically and with integrity
- Uphold high standards for data security and privacy
- Foster a responsible supply chain
- Advance product quality and safety



Progress on our key objectives and 2030 targets

Our focus areas

Objectives

2030 Targets

✓ Achieved 🔄 In Progress

2024 progress on targets and objectives

Accelerate access to genomics

- 1 Be the engine of genomic innovation
- 2 Drive down the total cost of sequencing
- 3 Increase the accessibility of genomics

🔄 Reach 5 million STEM learners

2.1 million STEM learners reached from 2019 baseline
1.4 billion lives covered for genomic testing as of FY24
>22,000 active installed base as of FY24
~9300 patents worldwide as of FY24
Launched the new MiSeq i100 Series.

Nurture our people and communities

- 1 Invest in our people
- 2 Support employee health, safety, and well-being
- 3 Engage our employees and communities

- ✓ Maintain zero net pay gap
- 🔄 Reduce recordable injury and illness rate
- 🔄 Donate 100,000+ volunteer hours
- ✓ Achieve 50% employee participation in giving and volunteering

Maintained for sixth consecutive year
38% decrease from 2019 baseline
91,370 volunteer hours donated from 2019 baseline
52% employee participation

Integrate sustainability

- 1 Drive climate action across our value chain
- 2 Operate sustainable facilities
- 3 Develop sustainable products
- 4 Leverage genomics for sustainability applications

- 🔄 Deliver net zero emissions (Scope 1,2,3) by 2050
- 🔄 Reduce emissions by 46% (Scope 1,2)
- 🔄 Reduce emissions by 46% (Scope 3)
- ✓ Achieve 100% renewable electricity
- 🔄 Reach 90% landfill diversion at core sites
- 🔄 Reach 10% reduction in water intensity at core sites
- ✓ Reduce packaging by 75%

In progress
45% decrease from 2019 baseline*
2% decrease from 2019 baseline; 19% decrease YoY
100% renewable electricity*
54% landfill diversion at core sites
1.2% decrease in water intensity from 2019 baseline; 4.2% decrease YoY
80% reduction from 2019 baseline

Operate responsibly

- 1 Practice strong corporate governance and compliance
- 2 Act ethically and with integrity
- 3 Uphold high standards for data security and privacy
- 4 Foster a responsible supply chain
- 5 Advance product quality and safety

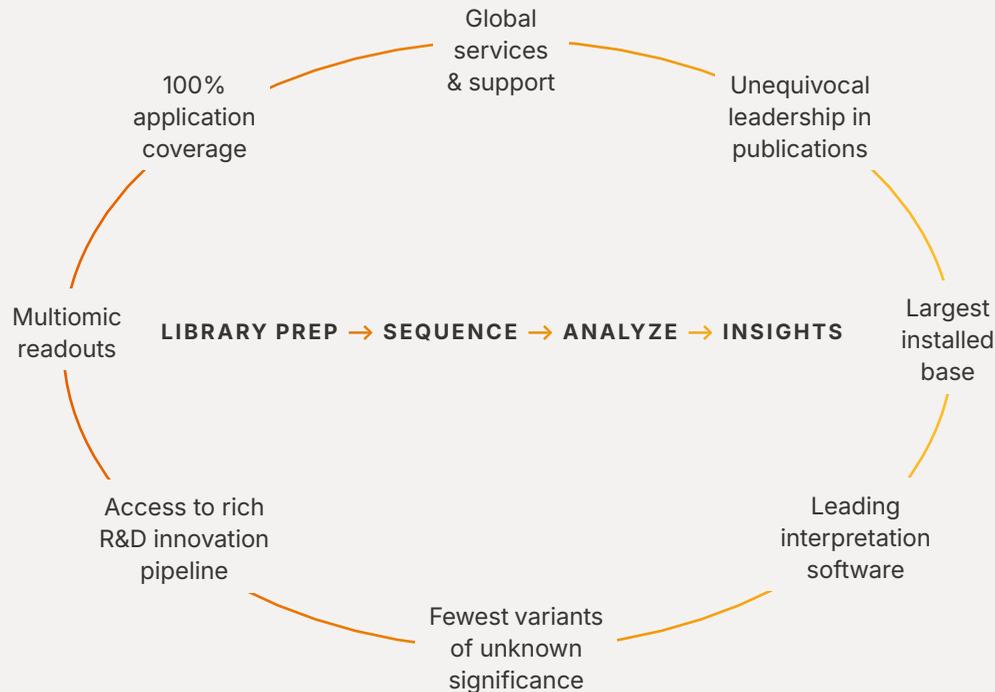
- ✓ Ensure 100% strategic suppliers committed to reducing their environmental footprint
- ✓ Achieve top industry CSR ratings

100% strategic suppliers committed to reducing their environmental footprint
Top industry ratings achieved
91% independent board
97% of employees trained on the code of conduct

Continuous innovation

Every technological breakthrough that increases value, improves throughput, decreases turnaround time, and improves ease of use helps our customers unlock life-changing discoveries and better health. To ensure they are successful, our innovation is driven and shaped by what customers tell us they need.

Unmatched ecosystem of offerings drives outsized value for customers



*as of FY24

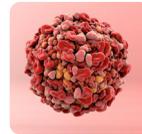
2024 innovation highlights

10
human genomes were sequenced on our platforms **every minute** in 2024

>22,000
active installed base*

~645,000
sequencing publications*

~9300
patents worldwide*



TruSight Oncology Comprehensive FDA approval

The Food and Drug Administration approved *in vitro* diagnostic TruSight™ Oncology Comprehensive test and its first two companion diagnostic indications. This single test interrogates over 500 genes to profile a patient's solid tumor, helping to increase the likelihood of identifying an immuno-oncology biomarker or clinically actionable biomarkers that enable targeted therapy options or clinical trial enrollment. [Learn more](#)



Single-cell analysis and discovery

In 2024, Illumina acquired Fluent BioSciences, developer of an emerging and highly differentiated single-cell technology. Fluent's unique technology combined with Illumina's leading sequencing and informatics solutions, including Partek Flow, which enables single-cell multiomic analysis, will provide customers with a complete solution and single point of support so that researchers can advance discovery faster and more economically. [Learn more](#)

Collaborating to advance genomics

Together with changemakers across the ecosystem, we're finding answers to life's biggest questions and broadening the positive impact of genomics around the world. Illumina partnerships help advance genomics in numerous ways, from expanding access to next-generation sequencing to pioneering new applications and technologies, providing funding for innovative startups, and more.

[Learn more about our partnerships](#)



Alliance for Genomic Discovery

In 2024, we [announced](#) the expansion of the [Alliance for Genomic Discovery](#) (AGD)—an effort cofounded with NashBio and Illumina in 2022 to drive diversity in genomic data. With the addition of Bristol Myers Squibb, GSK, and Novo Nordisk, AGD now includes eight pharma members cofunding whole-genome sequencing of 250,000 DNA samples, providing data for use in drug discovery and therapeutic development.



Collaboration with Janssen to advance molecular residual disease cancer test

In 2024, Illumina signed an [agreement](#) with Janssen Research & Development. This collaboration will be the first relating to the development of Illumina's novel molecular residual disease assay, a whole-genome sequencing multi-cancer research solution that detects circulating tumor DNA to better understand the persistence or recurrence of disease following clinical intervention.



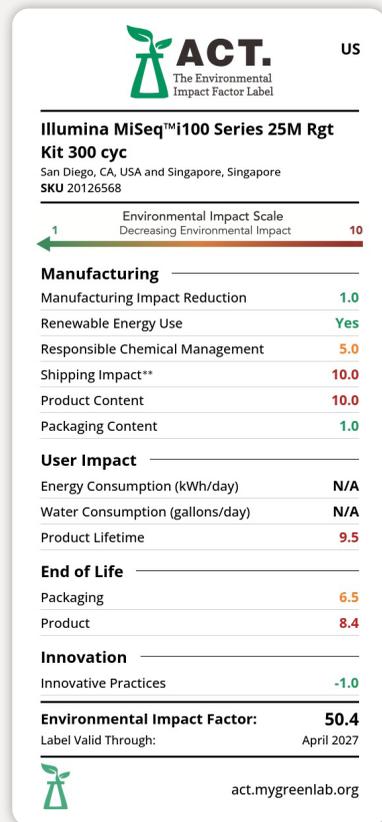
Supporting genomic startups

Genomic startups are playing an increasingly important role internationally in the expansion of the genomic ecosystem. [Illumina for Startups](#) is our way of accelerating innovation in the entrepreneurial community by partnering with leading venture capital investors and entrepreneurs to create, launch, and grow genomic startups.

MiSeq i100 Series

Empowering every lab everywhere

Accessible to users of all levels, the MiSeq i100 Series delivers speed, simplicity, and breakthrough sustainability advancements.



INTEGRATING SUSTAINABILITY

Room-temperature shipping and storage

The Illumina XLEAP-SBS™ chemistry on the MiSeq i100 Series removes the need for cold chain, enabling:

- Elimination of dry ice and ice packs
- Reduction of packaging materials
- Recovery of freezer space and reduction of customer energy consumption

88% reduction in packaging materials*

35% reduction in carbon impact†

Certified by My Green Lab, the MiSeq i100 Series and reagents obtained the ACT Label. The certification process assessed environmental impact across manufacturing, energy use, and end-of-life disposal. Achieving the label required meeting stringent criteria, including reduced carbon footprint and responsible material sourcing.



ACCELERATING ACCESS

4x faster

The MiSeq i100 Series provides results 4x faster,* with sequencing run times as fast as four hours. Customers can increase sample throughput, perform deeper sequencing, and gain more insights for a wide range of applications faster than ever.

Capturing more genetic diversity

The 2024 v4.3 update to DRAGEN, Illumina's secondary analysis onboard software, includes pangenome reference mapping, which harnesses the power of a prebuilt pangenome derived from 128 samples across 26 ancestries, capturing more genetic diversity, reducing ancestry bias, and improving accuracy.

Making NGS simpler than ever

Run setup requires only three steps and can be completed in less than 20 minutes.

Usable at any time

Sequencing runs can be initiated whenever our customers' samples are ready, wherever they may be, with or without access to a freezer.

*Compared with the MiSeq System

†Based on comparison of MiSeq reagent kits to MiSeq i100 reagent kits per 1 gigabase (Gb) of genetic code; measured in Global Warming Potential through an LCA aligned with the methodological requirements and guidelines of the ISO standards ISO 14040 (2006a) and ISO 14044 (2006b) on LCA and the GHG Protocol Product Life Cycle Accounting and Report Standard (WRI/WBCSD, 2011). However, as it is a streamlined LCA study, it does not fulfill all of the reporting requirements of these standards.

**Note that the 'Shipping Impact' score is calculated solely by the distance the product is shipped and does not take into account the sustainability advancements made by Illumina to reduce emissions from shipping, including ambient shipping.

Affordability

Making genomics available to all is critical in realizing its potential to save and improve lives. That's why we are driving down the total cost of workflow and supporting access to pathogen sequencing tools for public health in low- and middle-income countries.

Highest quality insight for the lowest end-to-end cost

Every day, our customers are unlocking innovative ways to use our products to advance research and human health. That is why we are committed to empowering our customers with the highest quality insight for the lowest end-to-end cost of the entire workflow.

Since 2001, the cost of DNA sequencing has dropped by more than 100,000x. However, the cost per genome is only one input of the total cost of sequencing.

Affordability of the instrument or the cost per gigabase (Gb) alone is only one factor when looking at the total cost of workflow.

Total cost of workflow includes everything from setup and running expenses to ancillary equipment, ease of use, level of support/instrument uptime, data quality, training, and much more. Our approach to affordability expands beyond the cost per Gb to encompass the total workflow.

From cost per gigabase to cost of workflow



← Insights & capability — Actionability — Ease and economics →

Pricing transparency

Illumina is committed to offering prices that enable broad access to genomic technology. We maintain a responsible approach to pricing our products. We negotiate and partner with health care systems, payers, and research institutions to make our products available at a fair net price. To support our customers and increase access, Illumina has:

- **Launched the NovaSeq X**, a new production-scale sequencing system that will push the limits of what's possible with genomic medicine, enabling faster, more powerful, and more sustainable sequencing
- **Launched the MiSeq i100** to support our goals of enabling access to genomic technology, delivering a low-throughput box that offers ambient temperature storage and shipping, which makes it more amenable to customers new to NGS
- **Expanded the emerging markets pricebook** to enable differential pricing for products with more significant impact and relevance to low- and middle-income countries

Illumina sets and adjusts list prices based on several factors, including cost, inflation, and market dynamics. Prices are available to customers through their account managers or online at myillumina.com. Prices are also visible to customers on their invoices and billing statements. As in past years, Illumina price increases were at or below inflationary indexes while absorbing many of the temporary cost increases driven by global supply chain issues. Illumina pricing reflects its value proposition and enables the company to continue to innovate for our customers and accelerate access to genomics for all.

Global Health Access Initiative



To support access to pathogen sequencing tools for public health in low- and middle-income countries, the [Illumina Global Health Access Initiative](#) was developed with the goal of driving access to genomics globally. Our objective is to establish a robust and enduring framework across logistics, pricing, service and support, and training that fosters coordinated utilization of genomics to bolster health systems and promote public health at a global scale.

The initiative provides:

- Set, discounted pricing for select Illumina sequencing instruments and consumables for eligible organizations
- Single-part-number ordering for library preparation, sequencing, and data analysis of important infectious disease genomic surveillance applications to simplify budgeting and ordering
- No minimum order quantities required

Accessibility

Increasing the accessibility of genomics and genomic sequencing can enable families, communities, and whole populations to harness the benefits of NGS. Realizing the potential of the genome requires education, advocacy, and global data that represents the diversity of our populations.

Increasing the accessibility of genomics



Increase genomic data diversity



Advance genomic literacy



Champion patients

Increase genomic data diversity

Genomics has been integrated into clinical practice at a faster rate than almost any innovation in the history of medicine, but inequities still exist. Implementation has been almost entirely restricted to more developed nations, and **78% of people** included in genomic studies of disease risk are of European ancestry.

To ensure that genomes can be interpreted in the appropriate context of global diversity, we aim to increase the representation of genomic data. This allows for therapies and solutions to be attuned to a broader set of genomes, decreasing this bias in our medicine for the future.

2024 initiatives

The 2024 v4.3 update to DRAGEN, Illumina's secondary analysis software, includes pangenome reference mapping, which harnesses the power of a prebuilt pangenome derived from 128 samples across 26 ancestries, capturing more genetic diversity, reducing ancestry bias, and improving accuracy. The pangenome reference in DRAGEN compares newly read genetic sequences against other known variations in that position, drawing from sample data that better captures the spectrum of people groups across the world. [Learn more](#)



Initiatives to increase genomic data diversity

- [Qatar Genome Program](#)
- [Egyptian Genome Project](#)
- [Singapore's PRECISE-SG100K](#)
- [Human Heredity & Health in Africa](#)
- [New York Genome Center's Polyethnic-1000](#)
- [Native BioData Consortium](#)
- [Alliance for Genomic Discovery](#)
- [Australia's OurDNA](#)
- [Silent Genomes Project](#)
- [Malaysia's MyGenom Project](#)



Advance genomic literacy

To accelerate access to genomics, we need to accelerate awareness and adoption. To do this, we advance genomic literacy by supporting health care professionals and by driving access to STEM education to inspire the next generation of scientists, innovators, and trailblazers.

Health care professionals

We are committed to expanding understanding and access to genomic testing through our outreach to health care professionals in a variety of settings. In addition to continuing to support independent medical education grants, our team focused efforts in 2024 on peer-to-peer connections through education for community health systems, scientific publications, medical and scientific presence at conferences, and participation in professional societies.

2024 progress

- Continued support for high-quality education grant and sponsorship requests
- Scientific presence at 50+ professional society annual conferences across the globe, with 45+ abstracts presented, and 35+ educational events organized for conference participants
- 30+ publications in high-impact journals and 40+ additional virtual education events organized

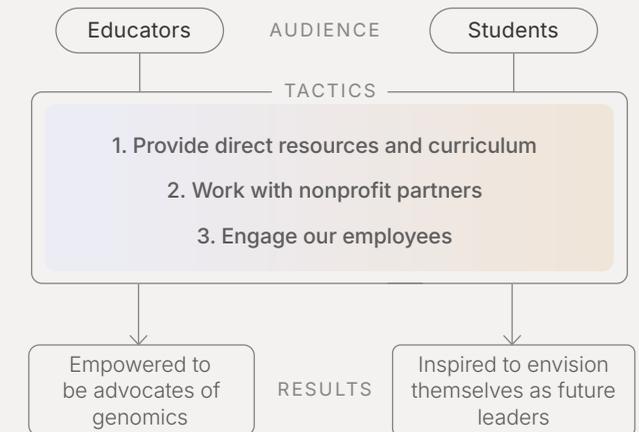


Future changemakers

The future of our mission relies on equipping the next generation. Through direct programming, nonprofit partners, and employee engagement, we aim to enable educators to be advocates of genomics and inspire learners of all ages to envision themselves as future leaders in STEM.

Our STEM strategy

We work to integrate STEM and genomics into the education ecosystem where educators and students have access to resources.



Patient coverage and reimbursement

Enabling innovation and driving affordability go beyond delivering sequencers and data. They include delivering insights and accelerating the paradigm shift toward genomic sequencing as a standard of care to improve patient outcomes and drive down overall health care costs. Through evidence generation, education, and community outreach, Illumina is committed to advocating for health care coverage and accelerating the adoption of genomics as a diagnostic tool.



~1.4B total covered in 2024*

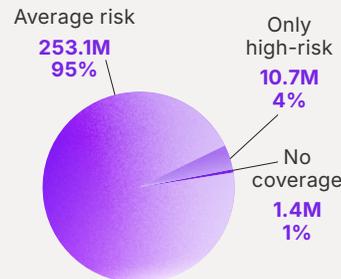
*Based on coverage and reimbursement of NIPT, CGP in advanced cancer, or WES/WGS in genetic disease

†Global coverage numbers represent our tracking of 19 countries globally (US, Canada, Belgium, Czech Republic, Denmark, France, Germany, Ireland, Italy, Netherlands, Spain, Sweden, UK, Israel, Japan, South Korea, Australia, China, Brazil).

US Coverage (EOY 2024)

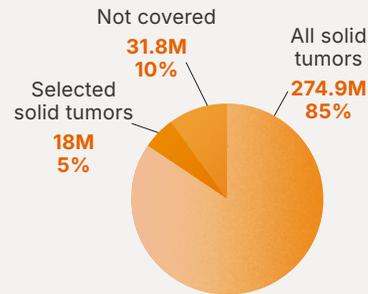
Noninvasive prenatal testing (NIPT)

Total lives 265.2M



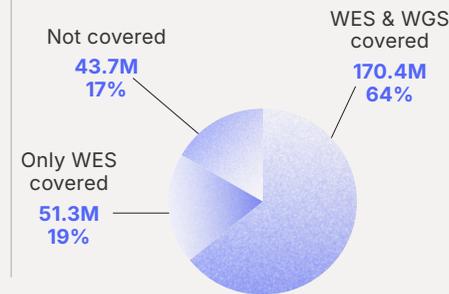
Comprehensive genomic profiling (CGP)

Total lives 324.7M



Whole-exome and genome sequencing (WES/WGS)

Total lives 265.2M



Global Coverage Snapshot† (EOY 2024)

2024 COVERED LIVES

1042.4M

↑66% since 2019 baseline

2024 COVERED LIVES

769.4M

↑54% since 2019 baseline

2024 COVERED LIVES

611M

↑115% since 2019 baseline

Demonstrating the clinical utility of genomics internationally

Below are some strategic initiatives formed to engage health systems worldwide and demonstrate clinical and economic utility:

- **Providence (United States):** Illumina is collaborating with Providence Health & Services to generate evidence of the clinical and economic utility of CGP in patients with advanced cancer. The collaboration has resulted in more than 10 scientific congress presentations and four manuscripts in development. The [latest findings](#) released in 2024 reveal that CGP, when done early in a cancer patient's diagnosis, leads to better personalized treatment and patient outcomes.
- **ECGP (Europe):** The European Coalition for Access to Comprehensive Genomic Profiling (ECGP) unites stakeholders to improve cancer care by expanding clinical access and reimbursement of CGP, advancing the adoption of personalized medicine. In 2024, the ECGP Steering Committee coauthored recommendations for European policymakers, set for presentation in March 2025. Meanwhile, initiatives in Italy and Spain are tackling local access barriers.
- **Optum/United Healthcare Group (United States):** This collaboration continues to generate evidence across numerous indications with jointly authored presentations and manuscripts. In 2024, we expanded activities to measure and act on provider adherence to policy through clinical quality initiatives.

- **Omico (Australia):** Omico enables patient access to cancer genomic tests via clinical initiatives in Australia. Illumina collaborates with Omico to demonstrate the clinical utility and economic value of cancer genomic testing, which will inform clinical practice and payer coverage decisions.
- **BALLETT (Belgium):** This [study](#) has recruited more than 900 metastatic cancer patients from 12 hospitals in Belgium, with testing in nine NGS laboratories, to demonstrate the utility of CGP within a nationalized single-payer system.

Explore more initiatives:

- [QuicDNA](#) (Wales)
- [IMPRESS](#) (Norway)
- [Coalition for Access to Prenatal Screening](#) (US)
- [Access to Comprehensive Genomic Profiling](#) (US)
- [Asia Pacific Medical Technology Association](#) (APAC)



Illumina leads a US-based alliance with the mission to expand access to WGS for children with rare and undiagnosed diseases.

The Genomic Answers for Children's Health ([GACH](#)) Alliance is an Illumina-founded coalition dedicated to improving access to whole genome sequencing (WGS) for eligible pediatric Medicaid patients. Recognizing that over half of the estimated 30 million Americans with rare diseases are children, the alliance aims to reduce the diagnostic odyssey that many families face before obtaining an accurate diagnosis.

WGS has the potential to provide precise diagnoses within weeks or even days, significantly improving patient care and management. Despite its benefits, commercial insurers and many state Medicaid programs do not cover WGS, creating barriers for children enrolled in Medicaid. The GACH Alliance advocates for policy changes to remove these obstacles, striving to make genomic sequencing accessible to all children with rare diseases, thereby facilitating timely and accurate diagnoses.

The alliance is focused on engaging with the Centers for Medicare & Medicaid Services for supporting regulatory efforts, developing legislation, and creating data-sharing options. The members of the alliance include a diverse group of health care stakeholders, such as health care providers, patient advocates, and technology providers.

Invest in our people

Building extraordinary teams and breakthrough innovations begins with putting our people's welfare at the heart of all that we do. To improve human health on a global scale, we start by creating a workplace that centers both innovation and care.

Development at Illumina is an intentional, everyday activity that prepares employees for success in their work now and for opportunities in the future. It is available to all, accessible in many formats, and contributes to a meaningful career experience at Illumina. Development is the catalyst for how we achieve success and become more than we ever thought possible—as individuals, as teams, and as an organization. Regardless of work arrangement or location, opportunities exist for continuous learning and growth.

Guided and supported at every step



Employee development offerings

To ensure that our employees enjoy long and fulfilling careers at Illumina, we provide:

- Access to online courses in professional development
- CliftonStrengths and Valence Perspective workshops that help employees embrace their innate talents and working styles
- Tools, guidance, and resources that build individual growth, team cohesion, and high performance
- Quarterly development discussions led by employees to gain clarity on priorities from their managers
- Leadership development programs for all new leaders and supervisors through senior directors
- Quarterly career development and performance conversations and semiannual promotion cycles

Leadership development offerings

We actively prepare leaders for the future through a variety of formal development offerings, including:

- **ELEVATE Leadership Development Programs** – Three distinct programs provide targeted skill-building, networking experiences, and coaching to leaders at every level
- **Discussion and Lean In Circles** – Our business leaders host discussions on important topics, such as Moving into Management and Managing Your Career. We also support Lean In Circles through our Women at Illumina Network (WIN) employee resource group (ERG)
- **Mentoring programs** – The Horizons ERG hosts buddy programs, connecting early career professionals with seasoned employees, and WIN offers a mentorship program called iMentor, giving all employees an opportunity to participate as a mentor and/or mentee
- **THRIVE: New Leader Orientation** – This program introduces Illumina leadership philosophy and practices to all newly hired and promoted leaders
- **Strengths-based training** – Valence Perspective and CliftonStrengths talent assessments, among others, are used to increase self-awareness, celebrate individual and team strengths, and support inclusion and psychological safety
- **Self-paced learning** – Employees have unlimited access to an extensive catalog of online courses through LinkedIn Learning

Listening to our people

Keeping a regular pulse on our employees' experience allows us to learn from feedback, double down on what works well, and identify areas of opportunity to drive positive change.

73%
Engagement index

92%
feel their manager supports
balancing work and personal life

81%
are proud to work for Illumina

83%
feel safe to be vulnerable
in their teams

“I started at Illumina in 2017 as a sales support specialist and never imagined that five years later I would be managing that team as well as the Commercial Tender Team. I have grown so much in this time and am lucky to have always had great managers and HR business partners who have helped me develop and continue to grow.”

Helen, Commercial Deals and Tenders, England

Employee resource groups (ERGs)

ERGs serve as a key lever to identify, develop, and retain talent. They enhance our culture by engaging employees and providing opportunities to connect, celebrate, and learn alongside peers.

Our ERG program pillars

BUSINESS IMPACT

Practice everyday innovation, utilizing cross-functional teams to identify and solve business challenges

CAREER DEVELOPMENT

Leverage skill-building and networking opportunities inherent in volunteer projects to develop our future leaders

COMMUNITY SERVICE

Support our communities by engaging with nonprofits where we live and work

EDUCATION

Drive deeper collaboration through targeted education and awareness events

“Through Horizons, I’ve networked with people cross-country covering different departments. I realized that we have such an amazing team who are passionate, great at what they do, and happy to help others. These people helped me to understand different cross-functional roles and now I am able to better understand how I contribute to the larger team. I’ve made connections who are helping me to develop necessary soft skills through their guidance and support.”

Gowtam, Scientist, Australia

Pay equity

Our pay practices are designed to compensate employees based on factors such as job performance, expertise, and experience relevant to individual geography. We monitor our pay equity status and market competitiveness on an annual basis.* For a sixth consecutive year, we are proud to confirm a zero net gap in pay† regardless of gender, race, age, ethnicity, sexual orientation, national origin, or any attribute that does not relate to the employee job and contribution.

Expanding pay transparency

As part of our commitment to pay equity and equitable processes, we provide salary range transparency on all US job postings. We also provide all employees with access to the salary range for their current position via our HR system.

2030 TARGET

Maintain

zero net pay gap



2024 PROGRESS

zero net pay gap

for a sixth consecutive year

Equal opportunity and nondiscrimination policies

Illumina does not discriminate. We are committed to fair and respectful treatment of all employees, promoting equal opportunity in the workplace and in all aspects of our business. Our policies prohibit discrimination based on race, color, age, gender, sexual orientation, marital status, gender identity and expression, ethnicity, religion, physical or mental disability, medical condition, genetic information, veteran status, national origin, or any protected class.



33%

Roles filled by internal candidates

15%

New hires referred by Illumina employees

53

Average hours of annual training per employee

100%

Employees provided opportunities for regular performance and career development reviews

*Equal pay refers to paying equal pay for equal work.

†Zero net gap in pay means no statistically significant difference in pay for the same or similar work, regardless of gender, ethnicity, or race.

Employee health, safety, and well-being

Employee benefits

We offer a comprehensive portfolio of benefits, and we extend these benefits to employees, spouses, domestic partners, and dependent children. Every day, our technology is being used to improve human health—enabling advancements that were not possible just a few years ago. Our employees receive access to these new technologies, such as workplace genomics, reproductive health programs, and cancer testing, to help better inform their health care decisions. Our employee benefits, which vary by country and region, recognize the tremendous value our people bring to the business with an array of meaningful programs.

Workplace Genomics Program*

Through our partner Genome Medical, we provide access to genetic experts who can consult, guide, and facilitate testing for employees and their families. In addition, we offer financial support for cancer tests, reproductive health tests, and clinical WGS for rare and undiagnosed diseases.

Through our partner Progyny, we offer a comprehensive fertility benefit program to eligible US-based employees that covers fertility preservation, providing access to care for our employees, including those pursuing nontraditional paths to parenthood.

Employees also receive access to Cleo, a comprehensive family support system for their caregiving journeys, including parenthood and caring for an adult loved one.

- Wellness rooms for nursing, meditation, and prayer
- Business travel medical insurance
- Gym access or membership
- Ergonomic workstations, abundant natural light, and opportunities to work outdoors
- Cafeterias offering sustainable, healthy food options, including vegetarian choices
- Genetic counseling*

- Disability insurance
- Tuition assistance

Additional perks and benefits

- Site amenities, including car wash, dry cleaning, mobile hair salons, food service, and mindfulness and self-improvement courses
- Employee referral program
- Donation matching program provided by the Illumina Corporate Foundation
- Special interest clubs
- Commuter support and free electric vehicle charging onsite
- Employee stock purchase plan

Cancer early detection testing (US)

The Galleri® multi-cancer early detection test is available at no cost to eligible employees in the US and their dependents as part of our Workplace Genomics Program.

Providing time to recharge

- Flexible time off
- Two days of paid volunteer time off
- Minimum 10 days of holiday paid time off
- Company-wide shutdowns in July and December
- Compassion and care time off

Supporting growing families*

Employees, their spouses, and their domestic partners may be eligible for the company-sponsored reproductive health program either through insurance or financial support, covering:

- Assisted reproductive technology, including *in vitro* fertilization
- Preimplantation genetic testing
- Noninvasive prenatal testing

Fostering wellness inside and out

- Medical, dental, and vision coverage
- Mental health support
- Pretax spending accounts
- Employee assistance program

Health solutions (US)

- Cancer support and expert advisory review through AccessHope
- Comprehensive mental health program for employees, dependents, and all household members through Lyra Health

Investing for the future

- Employee stock purchase program
- Retirement savings plans
- Pensions (Europe)
- Life and accident insurance



Recognizing success

We have designed several programs to recognize employees' outstanding achievements, including:

- **Innovation Award** – Recognizes this core element of our culture and success by annually celebrating our pioneering scientists for their extraordinary contributions
- **Inventor Award** – Annually recognizes employee inventors who contribute to our patent applications
- **Spot bonuses** – Recognize employees who have completed a special project or assignment that exceeded expectations or went above and beyond the scope of their normal responsibilities. This includes high-impact contributions that enable us to deliver on priorities and drive business results.

*Some services available in the US only.

Employee engagement and community impact

2030 TARGET

Achieve
50%

employee participation in giving and volunteering



2024 PROGRESS

Achieved
52%

employee participation in giving and volunteering

Engage our people to be agents of change

We strive to create a purpose-driven culture with opportunities for employees to volunteer in their community with the organizations that matter most to them. Guided by our CSR strategy focus areas, we deploy our skills, time, and resources to create a positive impact in our communities.

We offer a variety of ways for employees to give back. Employees can volunteer as individuals; with their families, teams, local sites, or regions; with ERGs; and through corporate global opportunities.

Employee giving and volunteer benefits*

- \$500**

donation match*
- 16 hours**

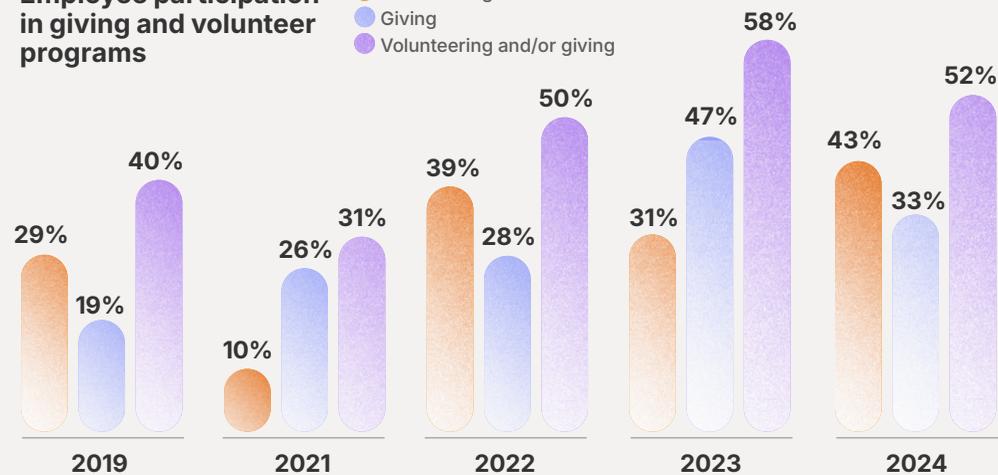
paid volunteer time off
- \$25**

new hire seed donation deposit*
- \$10**

Volunteer rewards donation earned for each hour of volunteer work*

Employee participation in giving and volunteer programs

- Volunteering
- Giving
- Volunteering and/or giving



*Since 2019 baseline

*Donation match, new hire seed donation, and volunteer rewards are all funded by the Illumina Corporate Foundation.

Community impact

We focus our community impact strategy on investments that support our mission and most material CSR issues. We drive collective impact and leverage our resources to help address local and global needs with philanthropic activities and nonprofit partnerships.



Seeing our impact (clockwise from upper left): Employees in Singapore lead a community cleanup to celebrate International Coastal Cleanup Day; the Illumina team at the Cambridge Dragon Boat Festival supports Addenbrooke's Charitable Trust; colleagues in San Diego prepare meals for patient families at Ronald McDonald House Charities; an employee gives blood at one of the many donation sites we have globally; employees get creative decorating superhero capes for oncology patients to support them during their treatment. Our dedicated volunteers are making a tangible difference around the world. In 2024 alone, employees donated more than 23,000 volunteer hours.

The next generation of changemakers

2024 ILLUMINA INVENTORS* BY THE NUMBERS

503

Total inventors

55

First-time inventors

137

New patent applications filed by Illumina employees in 2024

~9300

Total patents worldwide issued to Illumina as of FY24

University outreach

Nurturing future talent is important to the organization, and we participate in select regional early-in-career engagements promoting genomic awareness among students. We create meaningful student experiences through special events, professional development workshops, and technical talks. Our hybrid approach meets students where they are by offering both virtual and in-person sessions.



*Illumina defines an inventor as a person who contributed to the conception of invention claimed in an issued patent.

“Volunteering with The Future Is Bright program and going into classrooms in underserved communities is so fulfilling. Exposing kids to genomics early, especially those who may not otherwise have the opportunity, makes me feel like I’m playing a role in protecting the future of where genomics will lead. One elementary school child asked if genomics could bring back dinosaurs. They’re so willing to believe anything is possible. And that was an opportunity to share about how genomics is currently being used to protect endangered animals. It’s programs like that where I feel connected to the larger goal of Illumina. Yes, I’m a brand manager, but I’m now also a genomics advocate and STEM enabler. I play a bigger role than my title.”

Jennifer Pellegrini, Senior Staff Brand Manager, San Diego HQ

STEM education

We are committed to access to STEM education, aiming to empower students and enable educators to inspire the next generation of scientists, innovators, and trailblazers for the workforce of the future. To do this, we collaborate with community partners and engage our employees to reach students of all backgrounds. With a goal to reach 5 million learners by 2030, we aim to inspire learners to envision themselves as future leaders in STEM and at Illumina. [Learn more](#)



DNA Day STEM outreach: The Future Is Bright

In honor of DNA Day, celebrated annually on April 25, we host The Future Is Bright, a monthlong genomic literacy initiative. Illumina employees around the globe connect with students by hosting career panels, implementing genomic curricula, and leading

hands-on experiments. [Learn more](#)

In 2024, at our Cambridge location, we were joined by 150 enthusiastic children from schools in underserved areas of Cambridgeshire. The learners engaged in hands-on science activities, including extracting DNA from strawberries, and toured one of Illumina’s state-of-the-art laboratories.

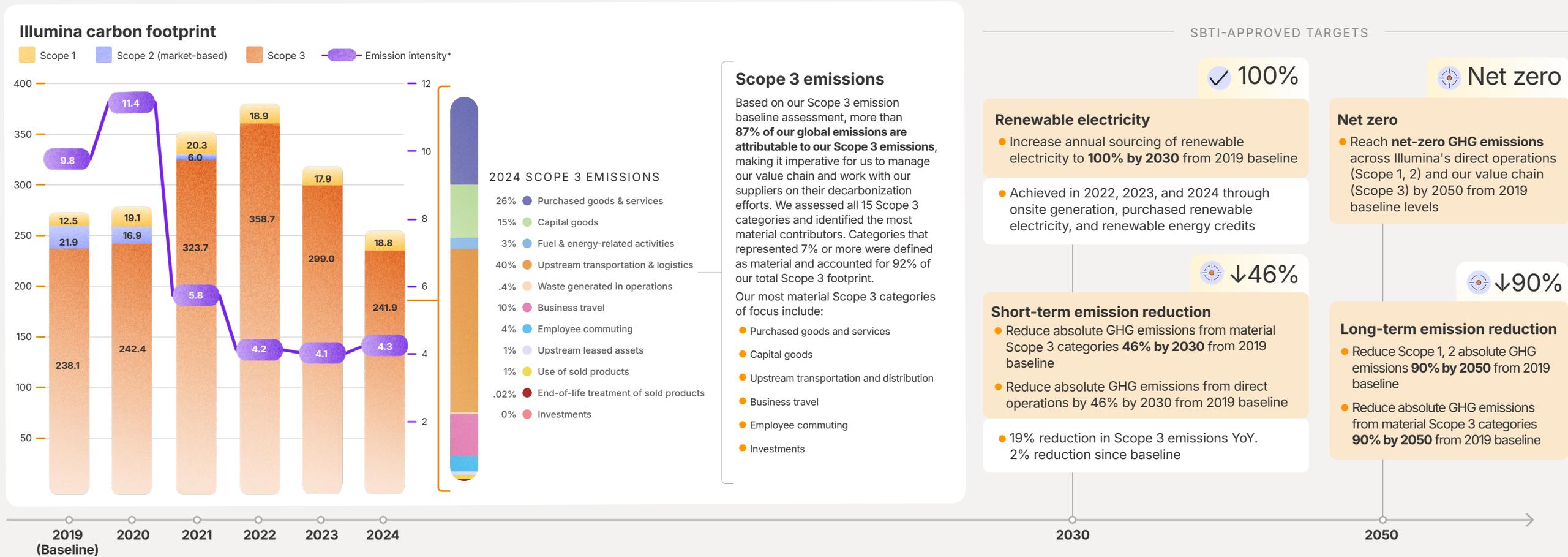
During the event, the Illumina team was honored to welcome HRH The Princess Royal to Illumina’s Europe regional headquarters in Cambridge. [Learn more](#)



Our path to a science-based net-zero emissions by 2050

Climate change represents a threat to human health, the environment, and the global economy. As a science-based organization, we aim to ground our climate action in a science-based framework.

We were among the first companies in the world and the first genomics company to receive [verification](#) of our 2050 net-zero emissions targets by the Science Based Targets initiative (SBTi) [Corporate Net-Zero Standard](#). Our Scope 1, 2, and 3 emission targets are also externally [verified by SBTi](#) and aligned to the Paris Agreement's goal of keeping planetary warming to 1.5°C.



SBTi net-zero mitigation hierarchy

Illumina follows the recommended mitigation hierarchy with our net-zero commitments. SBTi recommends science-based targets for the near and long term to address our value chain emissions and to implement strategies to achieve these targets as a first order of priority, and then to invest in mitigation outside the value chains. Under the recommendations of the SBTi Corporate Net-Zero Standard, companies should go beyond their near- and long-term science-based targets to further mitigate climate change by undertaking actions or making investments that generate additional co-benefits for people and nature. To further facilitate beyond value chain mitigation, Illumina has invested in carbon offsets while on our journey to net zero. We have [applied carbon offsets](#) for our natural gas Scope 1 as a temporary mitigation.

Emissions in kilotonnes. *Scope 1 and 2 emission intensity per million dollars revenue.

Develop sustainable products

1 Sustainable design

We integrate the Design for the Environment (DfE) approach into the core of our product development to find opportunities to increase the circularity of our products. We apply environmental criteria to resource selection, design, energy use, data processing efficiency, size, weight, stability, packaging, shelf life, temperature requirements, end-of-life management, and more.

Our approach to developing sustainable products:

- Integrate DfE into our product design
- Optimize product power consumption and processing efficiency
- Reduce the amount of petroleum-based plastic in new product designs
- Replace the use of chemicals of concern wherever possible with greener alternatives
- Seek additional opportunities to engage in a circular economy

Data-driven improvement through LCAs

As a science-based organization, it is critical that we measure the environmental impact of our products to better influence innovation and verify our progress. In 2022, we engaged a third party to complete a streamlined life cycle assessment (LCA)[†] of the NovaSeq X 10B 300 cycle kit compared to the NovaSeq 6000 S4 300 cycle kit and used the functional unit of a per gigabase (Gb) of genetic code. Our findings demonstrated a **61% reduction in climate change impact[†]** with the NovaSeq X kit.

In 2024, we conducted another LCA to compare the cycle kits of the MiSeq system and the new MiSeq i100 Series. We found a **35% reduction in climate change impact[†]** with the MiSeq i100 Series kit.

Emissions per gigabase (Gb)

MiSeq	3.81 kg CO ₂ e
MiSeq i100 Series	2.46 kg CO ₂ e
NovaSeq 6000	0.09 kg CO ₂ e
NovaSeq X	0.04 kg CO ₂ e

2 Sustainable use

When designing our lifesaving innovations, we aim to create products that are both more powerful and more energy efficient. This is exemplified in the MiSeq i100 Series, with integrated optimized data analysis for reduced energy requirements, and room-temperature storage, eliminating the need for freezers in the lab.

3 End-of-life design planning

We develop innovations that serve our customers long into the future and that incorporate end-of-life design planning, including designing cartridges with more recyclable plastics and toolless disassembly for easier recycling.

4 Sustainable materials

We are committed to sourcing sustainable materials, including reducing the amount of petroleum-based plastic in new product designs. We also actively work to replace the use of chemicals of concern with greener alternatives.

5 Sustainable production

Through our sustainable facilities, we aim to make the manufacturing process less energy intensive, minimize the use of toxic materials, and recycle waste from the production process where possible.

6 Smarter distribution

We work to make the transportation of our products more efficient and sustainable. This includes our XLEAP-SBS chemistry enabling ambient shipping for certain products, which eliminates the need for cold chain shipping.



7 Sustainable packaging

We invest in making our packaging recyclable, returnable, and reusable. We incorporate renewable materials, seek to eliminate unfavorable materials, increase recycling, increase material efficiency, design for recovery, use recycled content, source responsibly, and look for volumetric efficiencies.

- **Ocean transit:** We utilize in-temperature ocean transportation as a sustainable alternative to bulk product shipments previously sent via air
- Active ocean containers transit enables removal of passive insulated containers and coolant materials while still keeping product in ideal storage temperature with real-time monitoring
- Diverted over 150,000 kilograms of packaging material from landfills in 2024
- Optimal pallet patterns increased logistics efficiencies up to 160% in 2024
- **Crate reuse program:** We established a crate reuse program for instrument shipments within the continental United States
- Over 75 instrument crates returned for reuse, including their ancillary components in 2024
- 17,000 kilograms of instrument packaging diverted from landfills in 2024
- **Insulated containers:** We strive for continuous improvement, increasing global adoption and decreasing our environmental footprint for ongoing insulated container initiatives
- **Returnable:** Insulated containers for refrigerated and frozen *in vitro* diagnostic (IVD) products can be returned for reuse. Every container returned diverts 34 kilograms of waste from landfills
- **Reusable:** Insulated pallet shippers for frozen and refrigerated products are validated for multiple uses, supporting both internal network movements and customer bulk orders
- **Recyclable:** Where possible, Illumina uses plant-based insulated containers, which require less energy and can be composted or recycled using standard paper recycling streams

[†]The projects aligned with the methodological requirements and guidelines of the ISO standards ISO 14040 (2006a) and ISO 14044 (2006b) on LCA and the GHG Protocol Product Life Cycle Accounting and Report Standard (WRI/WBCSD, 2011). However, as it is a streamlined LCA study, it does not fulfill all the reporting requirements of these standards, including third-party review.

[†]100% recyclable in the US and widely recyclable globally.
[‡]Based on end market assessment NY, US

Leveraging genomics for sustainability applications

The positive power of genomics is helping to identify, measure, and solve some of the planet's most challenging and pressing issues. Our customers are leveraging the power of genomics for studies on biodiversity, endangered species protection, ecosystem conservation, sustainable agricultural practices, and climate change research.



Natural capital and biodiversity

As part of our approach to sustainable and responsible business operations, we take a holistic

look at natural capital and biodiversity and have reviewed potential risks and opportunities beyond our climate footprint. Using the Taskforce on Nature-related Financial Disclosures and the Kunming-Montreal Global Biodiversity Framework, we have also reviewed the links between our potential direct impacts and dependencies on natural capital. As the intersection of biodiversity, natural capital, and the economy becomes more defined, we recognize the opportunities for the application of genomics and Illumina sequencing to protect and innovate in future nature-positive economies.

Agrigenomics

Agricultural genomics, or [agrigenomics](#), is driving sustainable productivity and offers solutions to the mounting challenges of feeding a growing global population. Through modern technology, farmers, breeders, and researchers can identify the genetic markers linked to desirable traits, to inform cultivation and breeding decisions.



Genomic innovation in agriculture

In 2024, Illumina and LGC Biosearch Technologies, a pioneer in agricultural genomics, announced a strategic partnership to accelerate the adoption of genomics in agricultural applications. The partnership aims to deliver innovative solutions to researchers and breeders in the Asia Pacific (excluding China) and Latin America regions. [Learn more](#)

Conservation genomics

Conservation genomics focuses on characterizing the genetic diversity of endangered species and applying molecular tools like Illumina sequencing to support sustainable management of threatened species and populations.

iConserve initiatives

The Illumina iConserve program seeks to bring the community together to accelerate wildlife conservation.



[How genomics will support gorilla conservation](#)



[Sequencing to save the lemurs](#)



[Bottlenose dolphin genome made available to researchers](#)



[A new genomic atlas could help save endangered elephants](#)



[Sequencing five generations of San Diego Zoo koalas](#)

Biodiversity and eDNA sequencing

Environmental DNA sequencing is a rapidly emerging method for studying biodiversity and monitoring ecosystem changes. As organisms shed DNA into their environments, eDNA analysis can provide clues about the species present without disrupting the ecosystem. Potential applications of eDNA include port monitoring, biodiversity surveys, ballast water testing, soil testing, and more. Scientists are utilizing our technology and eDNA to gain insights to develop innovative environmental solutions.



Genomic innovation in conservation

In 2024, Illumina [partnered](#) with Citizens of the Sea, a charity recently cofounded by the Cawthron

Institute (NZ) and New Zealand Geographic, to analyze samples collected by sailors. The aim is to provide an unprecedented amount of data about biodiversity in the Pacific and the impact of climate change. [Watch the video](#)

Data privacy and cybersecurity

As we expand access to genomics around the world, we must also respect and properly secure data privacy.

Genomic data is powering positive progress around the world. We are committed to developing, upholding, and promoting high standards for genomic data privacy. We develop, implement, and review privacy-related policies, practices, and contractual language and ensure the integration of privacy as a priority throughout the company. Our Privacy Policy defines the way we use, maintain, protect, disclose, and transfer personal information.

Our privacy principles

We believe that responsible data stewardship, built on a foundation of strong privacy and data security protections, is essential to promote trust and support innovation. Illumina is committed to handling personal data according to applicable laws and the following guiding principles:

- Transparency
- Responsible stewardship
- Ethical use
- Accountability

Key initiatives in 2024

- Obtained Swiss and UK extension to the EU-US Data Privacy Framework (DPF) certification, as mechanism to legitimize data transfers from, respectively, Switzerland and the UK to the US
- Submitted updated Binding Corporate Rules application, an international data transfer instrument and “gold standard for data protection compliance”
- Expanded the scope of products within our cloud bioinformatics portfolio for the 2024 [ISO 27701 privacy certification](#)
- Obtained APEC Privacy Recognition for Processors (PRP) Certification for six cloud informatics products covered by ISO 27001/ISO 27701
- Published whitepaper “Privacy standards and compliance with Illumina Connected Software” and related FAQs
- Active engagement in the MedTech Europe Data Protection Committee



LEARN MORE

- [Privacy Policy](#) [Privacy Principles](#) [Privacy Transparency Report](#) [Illumina Data Security and Privacy Statement](#)

Cybersecurity

Our technologies and services inherently involve handling large amounts of genomic and health data that must be protected, making cybersecurity integral to achieving our company's mission.

KEY REFERENCES

- NIST Cybersecurity Framework
- California Consumer Privacy Act (CCPA)
- ISO 27001
- Health Insurance Portability and Accountability Act (HIPAA)
- ISO 27701
- Clinical Laboratory Improvement Amendments (CLIA)
- ISO 13485
- APEC Privacy Recognition for Processors (PRP)
- General Data Protection Regulation (GDPR)

CYBERSECURITY EDUCATION MONTH

Every year in October, Illumina works to increase awareness of the impact of cybersecurity threats and attacks and reinforces best practices all employees can follow to help keep Illumina and its data safe from cyber threats. 2024 activities included an information security quiz covering various cybersecurity threats and best practices, five cybersecurity videos focusing on cybersecurity issues and concepts for employees to help protect themselves and Illumina, and three keynote speaker sessions discussing real-world examples of cyber threats and tips for avoiding them.

The five pillars of our cybersecurity initiatives

1 Program governance

- Led by chief information security officer (CISO)
- Board of Directors' Audit Committee receives quarterly cybersecurity updates
- Annual assessment against National Institute of Standards and Technology (NIST) Cybersecurity Framework*
- Employees and contractors trained annually
- Third-party work requires cybersecurity risk assessment prior to engagement

2 Partnerships

- Health Information Sharing and Analysis Center (H-ISAC)
- Domestic Security Alliance Council (DSAC)
- Information 2 Systems Security Association International (ISSA)
- Society for Information Management San Diego (SIM)
- Chief Information Security Officer Roundtable
- InfraGard

3 Secure product design and placement

- Led by chief product security officer (CPSO)
- Driving products toward secure-by-design and secure-in-deployment states
- Implementing risk mitigations as part of product design and development process
- Cloud-based products aligned with ISO 27001 (security) and ISO 27701 (privacy) certifications
- Privacy by design and by default initiative
- Programs for hardening Illumina software products to comply with industry security practices

4 Risk analysis and security testing

- Continuously assess cybersecurity risk
- Perform internal and external security testing for cloud software products
- Regularly put cloud software products through static analysis
- Incident response plan and team in place to handle cyber-related disruption with business continuity and contingency plans*
- Internal vulnerability analysis conducted
- Internal tests deployed to represent simulated hacker attacks

5 Data protection

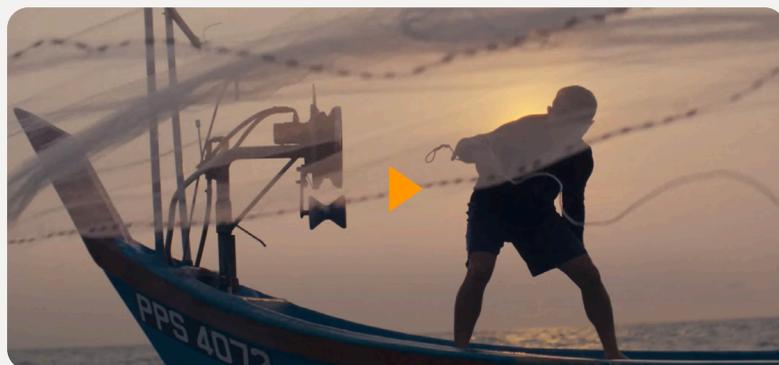
- Data protected in compliance with applicable laws and cybersecurity best practices*
- Data privacy and data protection align with standards set by GDPR, CCPA, HIPAA, other regulations, and Illumina privacy and data protection policies
- CLIA laboratories ensure data quality with privacy, security, and regular HIPAA framework assessments
- Backup capabilities encrypt and store data in immutable formats for data confidentiality and integrity*
- Illumina Connected Software portfolio provides enterprise-level protection with a range of deployment options*

*Limited to cloud-based informatics products; does not apply to instruments.

Impact in action

WATCH

Give someone a fish, you feed them—unlock the fish genome, you feed the world



For the first time ever, gene expression can be mapped from space

The University of Notre Dame is partnering with NASA and Illumina to monitor phenotypic signals for entire forests at once. [Learn more](#)



Using virtual reality to inspire careers in life sciences

Long Road Sixth Form College has introduced an innovative virtual reality (VR) experience, funded by the Government's Local Skills Improvement Fund (LSIF), to offer students a unique, immersive insight into careers within the life sciences industry. Developed in partnership with Illumina, the project aims to bridge the gap in access to real-world experiences in highly restricted environments, such as hospitals and commercial laboratories, making it easier for students to envision and explore career paths in this essential sector. [Learn more](#)



Giving students a new window on genomic technologies



Next-generation sequencing (NGS) provides amazing insights into health care, agriculture, food safety, and many other disciplines, making it increasingly essential for students to have access to this technology to enhance their career options. To make that happen, the Illumina Genomic Discoveries program and Biocom California's Generation STEAM are partnering to bring NGS education to San Diego-area high schools with Lab-in-a-Box.

Lab-in-a-Box includes an iSeq 100 System and all the materials necessary to conduct powerful experiments, like those performed in biotech labs. The program also supports teacher development by sharing information about industry tools, trends, and careers. [Learn more](#)

"Genomic testing saved my life"

Chris Ollis was diagnosed with a rare form of cancer at the age 25. At the time, he was a very active and fit deputy sheriff training to be a member of the SWAT team in San Joaquin County, California. "I was in the best shape of my life," he recalls.

After subsequent testing and a second opinion, Ollis learned that his cancer was a rare tumor type called myopericytoma, of which only a handful of cases have ever been reported in the world. Unfortunately, his providers told him there were so many tumors in his lungs, it would be impossible to remove them all. A general chemotherapy might slow blood flow to the area, curbing tumor growth, but the prognosis was poor and he was told he would live perhaps two years.

After Ollis began chemo, another Stanford oncologist suggested he try genomic testing. A pathologist sequenced one of



his tissue samples with a large panel. The test, often called comprehensive genomic profiling (CGP) or biomarker testing, assesses hundreds of cancer-causing genes and relevant cancer biomarkers for therapy guidance. The results of the test were returned to him in a two-inch-thick report. Within this massive amount of data, the genomic profiling had identified a very rare biomarker in which two genes had fused together. Ollis's specific gene fusion is called NTRK3-EVT6. His doctor told him about a small clinical trial focused on NTRK, with very promising results. [Learn more](#)

Illumina's Singapore team fights cancer

For the second year in a row, Illumina's Singapore team participated in the annual overnight Relay for Life Charity Run for the Singapore Cancer Society (SCS). The Illumina team completed the race's scheduled distance of 100 kilometers in about nine hours, then kept going to 125 kilometers as a demonstration of their encouragement to cancer patients that "no one fights cancer alone."

[Learn more](#)





Illumina Singapore employees cleaning up Coney Island as part of International Coastal Cleanup Day.

Photo credit: Joel Loy

Disclosures

This report may contain forward-looking statements that involve risks and uncertainties. Among the important factors to which our business is subject that could cause actual results to differ materially from those in any forward-looking statements are: (i) changes in the rate of growth in the markets we serve; (ii) the volume, timing and mix of customer orders among our products and services; (iii) our ability to adjust our operating expenses to align with our revenue expectations; (iv) uncertainty regarding the impact of our recent inclusion by the China Ministry of Commerce ("MOFCOM") announcement that Illumina is included on its "unreliable entities list," MOFCOM's decision not to permit us to export sequencing instruments into China, as well as tariffs recently imposed or threatened by the U.S. government and its trading partners, and other possible tariffs or trade protection measures; (v) our ability to manufacture robust instrumentation and consumables; (vi) the success of products and services competitive with our own; (vii) challenges inherent in developing, manufacturing, and launching new products and services, including expanding or modifying manufacturing operations and reliance on third-party suppliers for critical components; (viii) the impact of recently launched or pre-announced products and services on existing products and services; (ix) our ability to modify our business strategies to accomplish our desired operational goals; (x) our ability to realize the anticipated benefits from prior or future actions to streamline and improve our R&D processes, reduce our operating expenses and maximize our revenue growth; (xi) our ability to further develop and commercialize our instruments, consumables, and products; (xii) to deploy new products, services, and applications, and to expand the markets for our technology platforms; (xiii) the risk of additional litigation arising against us in connection with the GRAIL acquisition; (xiv) our ability to obtain approval by third-party payors to reimburse patients for our products; (xv) our ability to obtain regulatory clearance for our products from government agencies; (xvi) our ability to successfully partner with other companies and organizations to develop new products, expand markets, and grow our business; (xvii) uncertainty, or adverse economic and business conditions, including as a result of slowing or uncertain economic growth or armed conflict; (xviii) the application of generally accepted accounting principles, which are highly complex and involve many subjective assumptions, estimates, and judgments and (xix) legislative, regulatory and economic developments, together with other factors detailed in our filings with the Securities and Exchange Commission, including our most recent filings on Forms 10-K and 10-Q, or in information disclosed in public conference calls, the date and time of which are released beforehand. We undertake no obligation, and do not intend, to update these forward-looking statements, to review or confirm analysts' expectations, or to provide interim reports or updates on the progress of the current quarter.

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illumina®

+1.800.809.4566 toll-free (US) +1.858.202.4566 tel

illumina.com

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