



Illumina unveils roadmap of groundbreaking NovaSeq X advancements in data quality, output, speed, and flexibility

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40% increase in output to 35 billion reads, up to Q70 quality scores, improved turnaround time, and staggered starts are among the updates to be rolled out on all NovaSeq X systems, advancing precision medicine and delivering compounded value for NovaSeq X customers

SAN DIEGO, Feb. 23, 2026 /PRNewswire/ -- Illumina, Inc. (NASDAQ: ILMN) today unveiled an 18-month roadmap of innovations that enhance the power and value of the NovaSeq X system. Updates include technology that will deliver up to a Q70 quality score for the first time, along with 30% increased speed and output up to 35 billion reads (35B). Staggered starts and new flow cells go live across the customer base in the coming weeks.



Together, these advances increase daily sequencing productivity and expand the range of applications that can be run at scale on a single instrument. With higher output, increased accuracy, faster run times, and new flexible workflow modes, the roadmap delivers compounded value for customers seeking better, faster, and more cost-effective sequencing for their most demanding applications. Improved accuracy ushers in a new era for applications that require ultrasensitivity. Upon rollout, these updates will enhance the performance and value of the 890¹ NovaSeq X systems installed globally—the world's largest high-throughput sequencing fleet.

"The NovaSeq X is already the gold-standard in sequencing, and Illumina is constantly innovating to meet the growing needs of our customers' ambitious projects," said Steve Barnard, PhD, chief technology officer of Illumina. "With our roadmap of advances in quality, speed, output, and flexibility, we are bringing the industry the latest in cutting-edge technology and chemistry. These updates will set the stage for a new wave of research breakthroughs, inspiring a new standard of care in oncology and rare disease, ultimately improving human health."

These advances—together with a growing portfolio of multiomic and oncology-focused assays—accelerate Illumina's ability to deliver higher-quality data at a lower total cost. The updates also set the company on track to scale access to whole-genome sequencing research in oncology, including highly sensitive molecular residual disease (MRD) testing, and genetic disease.

Roadmap highlights

Key product enhancements expected to be rolled out over the next 18 months include:

- **Data quality:** Illumina will introduce Q70 quality score technology, enabling cutting-edge oncology applications with unmatched accuracy.
- **Output:** NovaSeq X output will increase from 25B to 35B (a 40% uptick) and 10B will increase to 14B, enabling larger and more complex studies on the same instrument.
- **Speed:** Illumina will deliver faster turnaround times, with 14B output in 20–22 hours, representing a 30% average improvement in speed on WGS workflows.
- **Flexibility:** Illumina will provide enhanced batching flexibility and new high-throughput modes, optimizing flow cell usage to improve read volume for single-cell, proteomics, and Perturb-seq applications.

In the coming weeks, Illumina will introduce new flow cells, staggered starts, and software enhancements that expand the

sequencer's applications.

- **Flow cells:** 5B kits present a mid-size batching option ideally suited for proteomic studies. A 1.5B 600 cycle kit offers longer read length for metagenomics, immune repertoire studies, and amplicon sequencing.
- **Staggered starts:** Near-independent flow cell sides allow for asynchronous runs as samples become available, maximizing instrument flexibility and boosting throughput.
- **DRAGEN software advances:** DRAGEN pipelines for multiomics, oncology, and genetics.

Texas A&M Agri Life utilizes the NovaSeq X to handle large volumes of samples and recently participated in an early access trial of the 1.5B 600 cycle kit and upcoming NovaSeq X software enhancements.

"The NovaSeq X is becoming better, cheaper, and faster," said Charlie Johnson, PhD, director of Genomics and Bioinformatics.

"Since we purchased the NovaSeq X, the data yield for a run has increased by 30% on average, thanks to the advances Illumina continues to introduce. Today, the 600-cycle flow cell delivers everything we hoped for in high-throughput, longer-read sequencing for our metagenomics work."

The updates will be rolled out across all NovaSeq X systems, benefiting both current users and future adopters.

Illumina NovaSeq X systems are used around the world supporting research and clinical labs that are working to advance science and improve human health. Treatment breakthroughs, diagnostic models, and entire industries have been built on Illumina's next-generation sequencing capabilities, from discoveries in targeted cancer therapy to cancer and rare disease diagnosis, non-invasive prenatal screening, and MRD testing.

To learn more about the NovaSeq X, visit <https://www.illumina.com/systems/sequencing-platforms/novaseq-x-plus.html>.

Use of forward-looking statements

This release 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) our ability to successfully implement NovaSeq X updates on a cost-effective and timely basis, (ii) challenges inherent in developing and launching new products and services, including modifying and scaling manufacturing operations, and reliance on third-party suppliers for critical components; (iii) our ability to manufacture robust instrumentation and consumables and develop reliable software solutions; and (iv) the acceptance and adoption by customers of our newly launched or updated products, which may or may not meet our and their expectations, 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.

About Illumina

Illumina is improving human health by unlocking the power of the genome. Our focus on innovation has established us as a global leader in DNA sequencing and array-based technologies, serving customers in the research, clinical, and applied markets. Our products are used for applications in the life sciences, oncology, reproductive health, agriculture, and other emerging segments. To learn more, visit [illumina.com](https://www.illumina.com) and connect with us on [X](#), [Facebook](#), [LinkedIn](#), [Instagram](#), [TikTok](#), and [YouTube](#).

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1. [As of the Q4 financial disclosures](#), the NovaSeq X active install base was 890 at the end of FY2025.

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