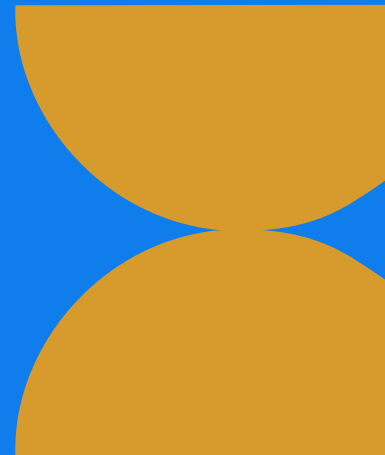




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Q1'25 Financial Results Webcast & Call

May 14th 2025



Safe harbor statement - This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as “may,” “will,” “expect,” “plan,” anticipate,” “estimate,” “intend,” “should,” “believe,” “would,” “could,” “potential,” “outlook,” “guidance,” “goal” and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances and the negatives thereof) convey uncertainty of future events or outcomes and are intended to identify these forward-looking statements. Forward-looking statements include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things: (i) our expectations regarding product uptake, revenue, flowcell usage by customers we consider to be routine users, market development and adoption of OGM, including as evidenced through publications highlighting the utility and applications of OGM; (ii) our future prospects and future financial and operating results; (iii) growth of our OGM system installed base and sales of our flowcells; (iv) increase in the adoption and utilization of OGM and our success in executing on our strategic pillars and key imperatives; (v) efforts to extend our cash runway; (vi) our ability to stay in front of competitors’ improvements; (vii) our quarterly and annual revenue outlook; (viii) the performance of OGM compared to traditional cytogenetic methods, including karyotyping (KT), fluorescent *in situ* hybridization (FISH), chromosomal microarray analysis (CMA) and whole genome sequencing (WGS); (ix) the anticipated benefits of our cost savings initiatives and our ability to realize the planned savings; (x) the anticipated benefits of OGM being included in expert and medical society recommendations and guidelines; and (xi) other statements that are not historical facts.

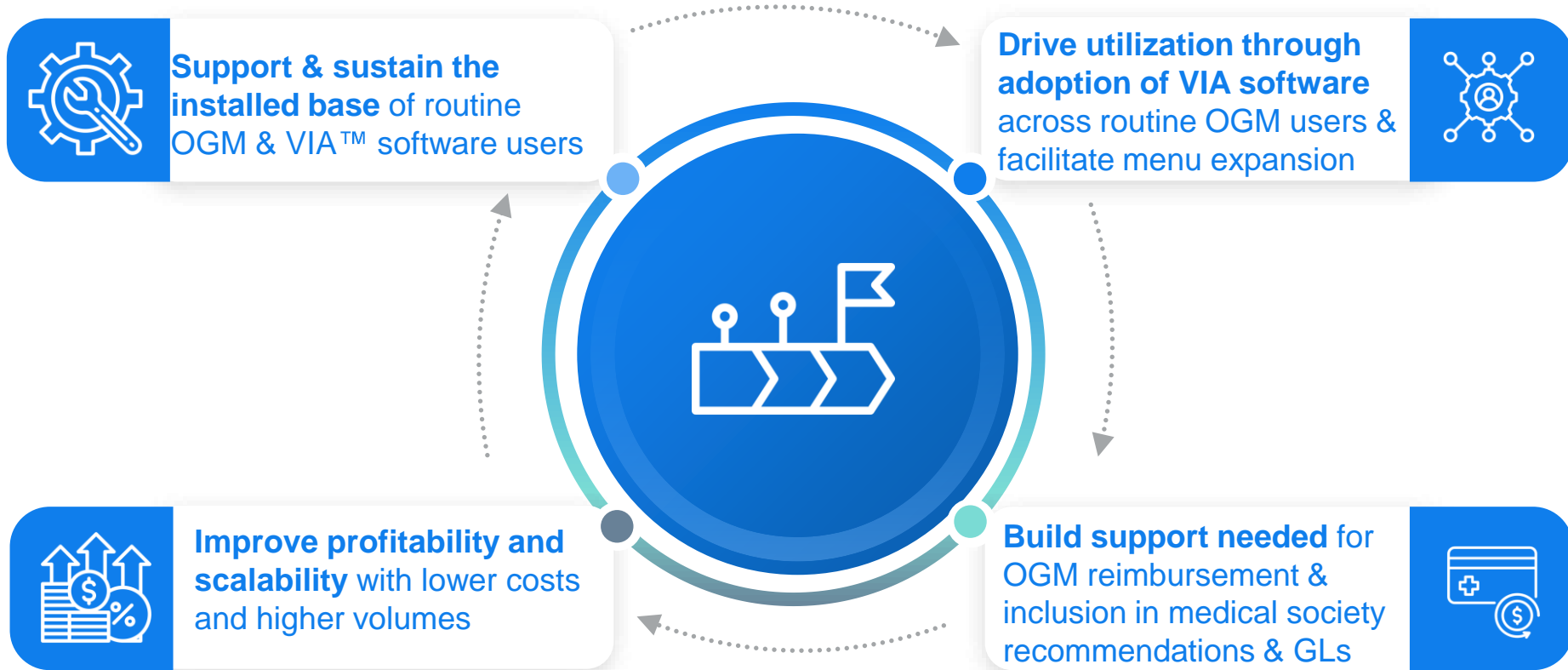
Each of these forward-looking statements involves risks and uncertainties. Actual results or developments may differ materially from those projected or implied in these forward-looking statements. Factors that may cause such a difference include the risks and uncertainties associated with: (i) the impact of global and macroeconomic events, such as recent and potential future bank failures, inflation, tariffs, supply chain disruptions, and the ongoing conflicts between Ukraine and Russia and in the Middle East, and related sanctions, on our business and the global economy; (ii) challenges inherent in developing, manufacturing and commercializing our products; (iii) our ability to further expand the utilization of our technology platforms and the success of executing on our strategic pillars and key imperatives; (iv) third parties’ abilities to manufacture our instruments and consumables; (v) our expectations and beliefs regarding future growth of the business and the markets in which we operate; (vi) the accuracy of our estimates; (vii) our ability to obtain financing to fund our operations and continue as a “going concern” which requires us to manage costs and obtain significant additional financing to fund our strategic plans and commercialization efforts; (viii) our ability to complete a strategic transaction that would increase stakeholder value; (ix) the risk that if we fail to obtain additional financing we may seek relief under applicable insolvency laws; (x) the success of our cost savings initiatives and our ability to realize the planned savings; (xi) the success of products competitive with our own; (xii) the failure of OGM to outperform traditional cytogenetic methods; (xiii) changes in our strategic and commercial plans; (xiv) the application of generally accepted accounting principles which are highly complex and involve many subjective assumptions; and (xv) the risks and uncertainties associated with our business and financial condition in general. We are under no duty to update any of these forward-looking statements after the date of this presentation to conform these statements to actual results or revised expectations, except as required by law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this presentation. Except as required by law, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements contained in this presentation.

More information about these and other statements, risks and uncertainties is contained in our filings with the U.S. Securities and Exchange Commission, including, without limitation, our Annual Report on Form 10-K for the year ended December 31, 2024 and in other filings subsequently made by us with the Securities and Exchange Commission. All forward-looking statements contained in this presentation speak only as of the date on which they were made and are based on management’s assumptions and estimates as of such date. We do not undertake any obligation to publicly update any forward-looking statements, whether as a result of the receipt of new information, the occurrence of future events or otherwise, except as required by law.

To supplement our financial results reported in accordance with U.S. generally accepted accounting principles (GAAP), we have provided certain non-GAAP financial measures, including gross margin and operating expense in this presentation. A description of these non-GAAP financial measures as well as a reconciliation to the nearest GAAP financial measures are included at the end of the Company’s earnings release issued associated with this presentation, which has been posted on the investor relations page of the Company’s website. Because of the non-standardized definitions of non-GAAP financial measures, the non-GAAP financial measures as used in this presentation and the associated reconciliation table have limits in its usefulness to investors and may be calculated differently from, and therefore may not be directly comparable to, similarly titled measures used by other companies. For certain non-GAAP financial measures we do not provide guidance for the most directly comparable GAAP measures and similarly we cannot provide a reconciliation between our most directly comparable GAAP measures without unreasonable effort due to the unavailability of reliable estimates for certain components which are not within our control and may vary greatly between periods and could significantly impact our financial results calculated in accordance with GAAP.

We believe that non-GAAP financial measures in this presentation are useful to investors and analysts as a supplement to our financial information prepared in accordance with GAAP for analyzing operating performance and identifying operating trends in its business. We believe these measures allow for greater transparency with respect to key financial metrics we use in assessing our own operating performance and making operating decisions. These non-GAAP financial measures are not meant to be considered in isolation or as a substitute for comparable GAAP measures and should be read in conjunction with our consolidated financial statements prepared in accordance with GAAP.

Strategic Pillars and Key Imperatives for 2025

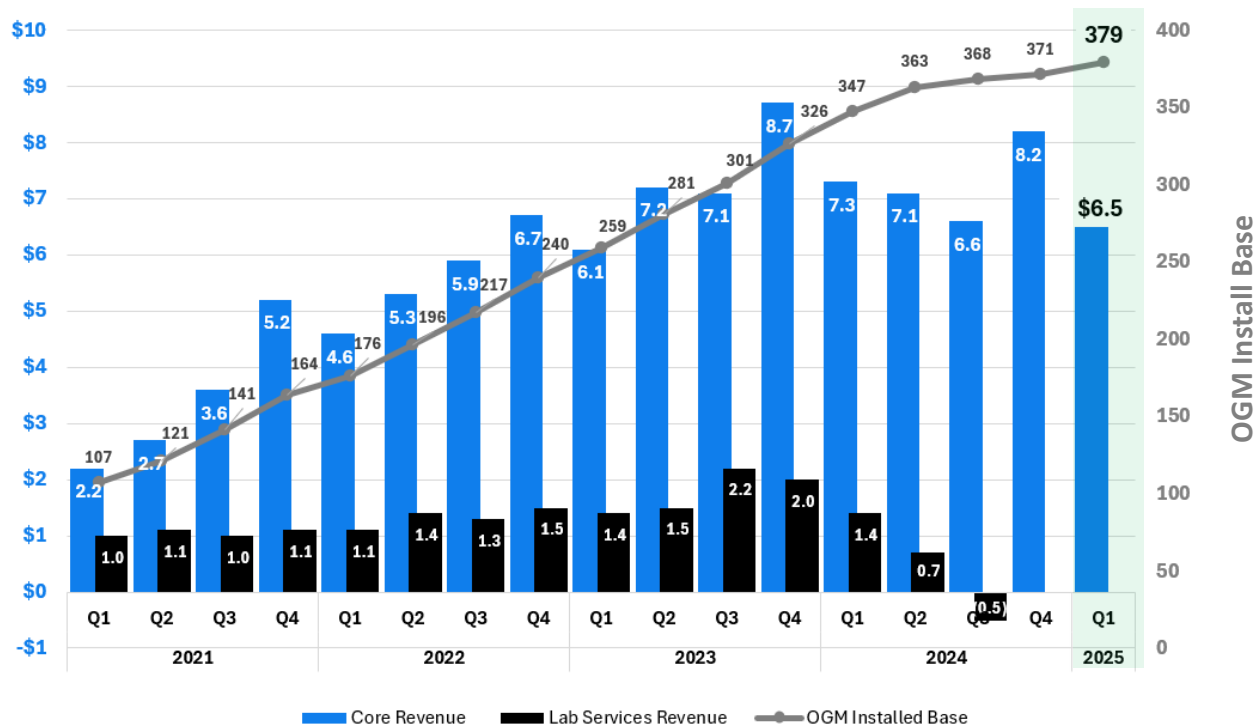


First Quarter 2025 Update

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First Quarter 2025 Results



- Q1 Revenues: \$6.5M (-26% vs. Q1'24; -11% vs Q1'24 core revenues)
- Q1 flowcells (FCs) sold: 6,994 (-15% vs. Q1'24); excluding FCs sold to new customers, FCs purchased were +1% in Q1'25 vs Q1'24)
- GAAP Gross margin of 46% (+14% vs. Q1'24); non-GAAP gross margin of 46% (+12% vs. Q1'24)
- GAAP OpEx \$11.4M (-66% vs. Q1 '24); non-GAAP OpEx \$8.5M (-65% vs. Q1'24)
- Q1 OGM installed base: 379 (+9% vs. Q1'24)

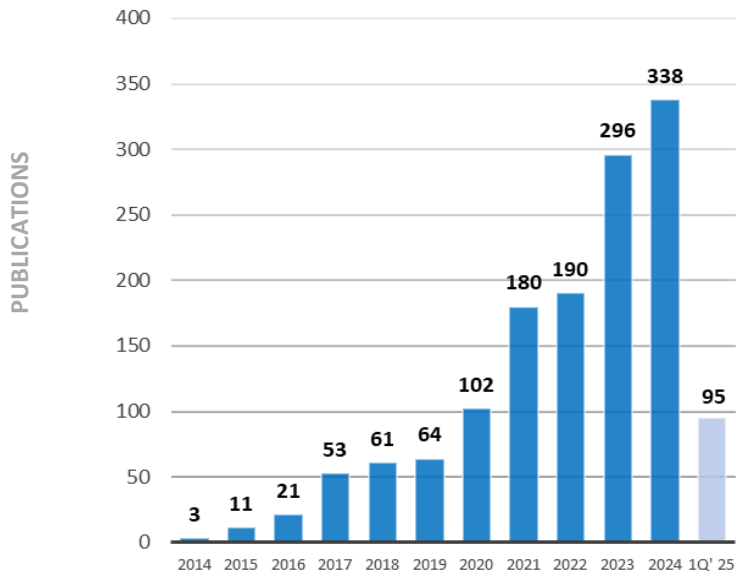
\$29.2M* Cash, Cash Equivalents, and Available-for-Sale Securities at March 31, 2025

Revenue analysis shows steady contribution from our routine users who generate the vast majority of consumables revenue

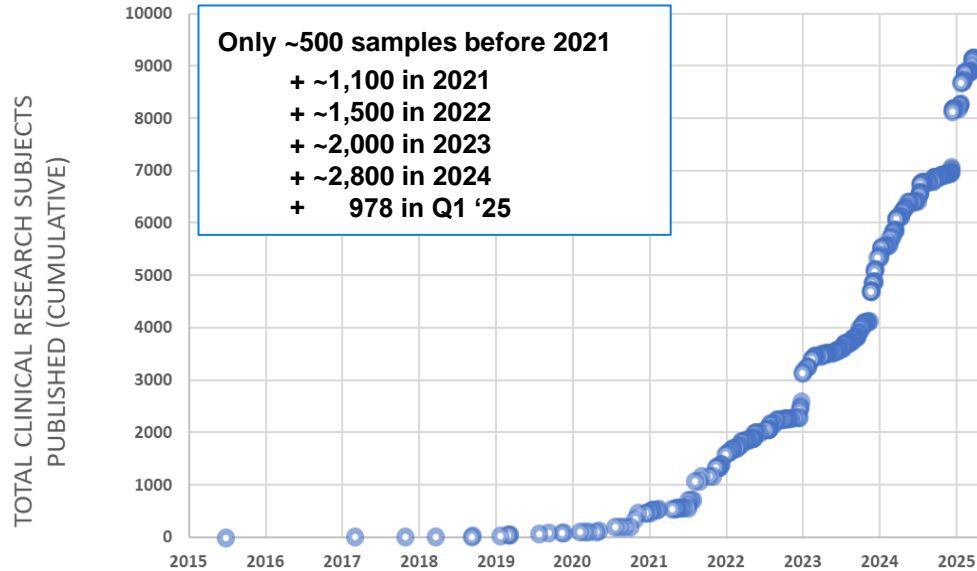
	Revenue	Flowcells (FCs) sold
Q1 '24	\$8.8 million -\$1.4 million (discontinued clinical services) -\$1.6 million (instrument sales) ----- \$5.8 million (consumables and software)	8,249 FCs sold -2,388 FCs sold (in connection with new instrument sales) ----- 5,861 FCs sold (existing customer base 12-31-2023)
Q1 '25	\$6.5 million -\$0.0 million (discontinued clinical services) -\$0.7 million (instrument sales) ----- \$5.8 million (consumables and software)	6,994 FCs sold -1,050 FCs sold (in connection with new instrument sales) ----- 5,944 FCs sold (existing customer base 12-31-2024)

We believe the growth in publications and clinical research genomes published are important for building support for widespread use of OGM

95 Publications in Q1 2025, which is 2nd highest single quarter for publications (vs 99 in Q1 2024) and a great start for the year



Over ~9,100 published human clinical research genomes.



Key publications underscore utility of OGM & adoption by KOLs in cytogenomics for heme malignancies and constitutional genetic disorders

Heme malignancies – Multiple Myeloma



THE JOURNAL OF
MOLECULAR DIAGNOSTICS

“Deciphering Genomic Complexity of Multiple Myeloma Using Optimized Optical Genome Mapping”

[https://www.jmdjournal.org/article/S1525-1578\(25\)00035-2/fulltext](https://www.jmdjournal.org/article/S1525-1578(25)00035-2/fulltext)

- Novel OGM workflow for multiple myeloma (MM) with mixed CD138+ & CD138- cells
- Workflow reduces MM cell input requirement by 50% to 500k cells (vs 1M)
- OGM was 93% concordant with FISH, revealed 22 variants MISSED by FISH & found to improve prognostic risk evaluation

Constitutional genetic disorders – Repeat Expansion Disorders

Radboudumc
university medical center

GENOME
RESEARCH

“Optical Genome Mapping Enables Accurate Testing of Large Repeat Expansions”

<https://genome.cshlp.org/content/early/2025/03/19/gr.279491.124.full.pdf+html>

- OGM accurately sized long repeat segments, which is challenging due to complexity of repeat sequences and somatic instability
- OGM identified 84/85 (98.8%) pathogenic repeat expansions accurately
- Overall, OGM accurately detected repeats larger than >300bp

Heme malignancies – Expert recommendations by ICOGM

International Consortium for
Optical Genome Mapping
(ICOGM)

American Journal of
Hematology

“Integration of Optical Genome Mapping in the Cytogenomic and Molecular Work-Up of Hematological Malignancies: Expert Recommendations From the International Consortium for Optical Genome Mapping”

<https://doi.org/10.1002/ajh.27688>

- International group of multidisciplinary experts recommend adoption of OGM as standard-of-care (SOC) for heme as:
- **First line test** for AML, MDS, MPN, B-ALL, T-ALL, pediatric leukemias and unexplained eosinophilia; &
- **Alternative to KT/FISH/CMA** for CLL, MM, aplastic anemia and bone marrow failure syndromes

Heme malignancies – Largest OGM study-to-date

THE UNIVERSITY OF TEXAS
MDAnderson
Cancer Center



cancers

“Clinical Utility of Optical Genome Mapping as an Additional Tool in a Standard Cytogenetic Workup in Hematological Malignancies”

<https://www.mdpi.com/2072-6694/17/9/1436>

- 519 cases across multiple heme malignancy types
- In 58% of cases, OGM revealed Tier 1, 2 & 3 variants missed by KT and FISH
- In 15% of cases, OGM detected Tier 1 variants with clear diagnostic, prognostic or therapeutic significance

Important steps to reduce cash burn and extend runway



Gross Margin Improvement

- ✓ Gross Margin for the core business (non-GAAP) has improved from 22% in Q1 2023 to 46% in Q1 2025



Cumulative Cost Savings

- ✓ Over \$100M projected cumulative annual non-GAAP operating expense reduction by Q1 2025, compared to Q1 2023



Head Count Reduction

- ✓ Reduced headcount from 423 people in May 2023, to ~95 people as of March 31, 2025



Equity Capital Financing

- ✓ \$10 M registered direct offering completed Jan 3, 2025; we believe cash runway extends into Q1 2026



A highly disciplined approach will position company for future streamlined growth

Financial Overview

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Bionano is focused on driving existing customer sites that are expanding capacity and in key target geographies

Streamlined Business Focus



- **Support & sustain the installed base** of routine OGM & VIA software users
- **Drive utilization through adoption of VIA software** across routine OGM users & facilitate menu expansion
- **Build support** needed for OGM reimbursement & inclusion in medical society recommendations & guidelines
- **Improve profitability and scalability** with lower costs & higher volumes

2025 Guidance



FY'25 Total Revenue Guidance:
\$26 – \$30M



New OGM Installations FY'25:
15 – 20 systems



2Q'25 Revenue Guidance:
\$6.3 – \$6.8M

Questions & Answers

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Thank you.

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