BioSpectrum
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“Govt initiatives and private sector investments are boosting adoption of NGS technologies for various applications”

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Illumina, a global leader in DNA sequencing and array-based technologies, recently launched the MiSeq i100 and MiSeq i100 Plus Systems. These two powerful, compact benchtop sequencers incorporate more than 140 invention disclosures and 60 patent families. The Illumina MiSeq i100 Series is its first customer-installable instrument since the iSeq. The MiSeq i100 Series builds on the legacy of the original benchtop MiSeq System, which Illumina customers have used since 2011 to power a host of genomic discoveries. Completely redesigned and incorporating the groundbreaking technology and chemistry of the NovaSeq X Series, the MiSeq i100 will help fuel the next generation of genomics growth and discovery. In an interaction with BioSpectrum Varun Raj, Regional Marketing Manager - India and Southeast Asia, Illumina shared more details about the series and how the company will take this product to end users and more.

Which are the industry challenges that the MiSeq 100 will solve for the benefit of the scientific community?

Our customers in the scientific community told us they need a faster, smaller, and easy-to-use instrument, and that’s what we’re delivering with the MiSeq i100.

Whether an established next-generation sequencing lab or a lab looking to start sequencing for the first time, our latest benchtop instrument adds the ‘plug-and-play’ flexibility that today's labs are seeking.

MiSeq i100 is empowering customers to unlock powerful insights through an affordable, comprehensive solution that is simple to understand and use, even for those with limited NGS expertise. Room-temperature storage and shipping enable labs to sequence on demand, with no delays for thaw time and same-day sample-to-analysis.

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What are the USPs of the MiSeq 100 compared to similar products in the market?

The MiSeq i100 Series brings Illumina’s powerful XLEAP-SBS chemistry innovation even further—for the first time, harnessing the potential of room-temperature storage and shipping, which provides customers greater flexibility in how they plan and execute their projects while reducing their environmental impact.

Key features of MiSeq 100 include Room-temperature shipping and storage for reagents (Eliminating the cold chain and allowing for greater flexibility to sequence on demand without the need to thaw reagents, which is critical for running urgent samples); Sustainability (An 85 per cent reduction in packaging waste compared to the MiSeq System supports a lower carbon footprint); Speed (Dramatic reduction in run times: as fast as four hours, with same-day results (4× faster than MiSeq)); Cost efficiency (Cost-effective consumables enable more affordable sequencing); Turnkey workflows (18 proven end-to-end workflows across 10 applications) Simplicity (Simpler, streamlined operations for various levels of sequencing experience) and Integrated Data Analysis (The MiSeq i100 includes onboard data analysis with preconfigured DRAGEN pipelines, minimising the need for external data processing and analysis tools).

How do you see the market potential for the MiSeq 100 in India?

According to industry reports, the Next-Generation Sequencing (NGS) market in India is expanding rapidly and is expected to grow at a compound annual growth rate (CAGR) of around 11 per cent through 2033. This growth indicates a strong demand for advanced sequencing technologies. The market potential for the MiSeq i100 in India looks promising, driven by increasing market awareness and growing investment in healthcare and genomic research. Government initiatives and private sector investments are boosting the adoption of NGS technologies for various applications, including clinical diagnostics, oncology, and personalised medicine. Combined with these macro-environmental tailwinds, as well as the speed, simplicity, scalability, sustainability, and cost-effectiveness it offers, the MiSeq i100 is well poised to unlock the potential for genomics growth and discovery in India.

How does the MiSeq 100 fit into India’s growing genomics landscape?

The MiSeq i100 fits well into India's rapidly evolving genomics landscape, addressing several key needs and opportunities. With its speed, simplicity, flexibility, and cost-effectiveness, it has the potential to empower every lab, everywhere, making NGS accessible and affordable to a broader range of laboratories, including smaller research institutions and hospitals. This democratisation of NGS is crucial for expanding genomic discoveries and research across the country, especially for clinical applications, where genomic insights can impact patient care and treatment decisions. The MiSeq i100 is well-positioned to contribute to India's genomics revolution, supporting advancements in personalised medicine, genetic research, and biotechnology.

Who among the public and private sectors will be your target audience for the MiSeq 100 series?

The MiSeq i100 series is suitable for a wide range of applications, addressing the needs of a diverse group of users across multiple segments in both the public and private sectors.

In the public sector, it can fit well within academic and research institutions conducting genomic studies and projects, government health agencies involved in public health surveillance, epidemiology, and disease control, as well as public

hospitals and diagnostic labs focusing on personalized medicine, oncology, and genetic testing.

In the private sector, the MiSeq i100 can effectively serve the needs of hospitals and medical centres offering genetic testing and precision medicine services, biotechnology companies involved in drug development and vaccine discovery, and environmental and agricultural research firms studying environmental genomics, biodiversity, crop improvement, and animal genetics.

How do you reach out to a large customer base in India, considering its vast geographical area?

With more than 200 employees, we have established a strong market presence in the country. In parallel, our long-standing collaboration of over 18 years with our trusted channel partner, Premas Life Sciences, has enabled us to support the Indian market, providing access to next-generation sequencing technology and genomic solutions to various institutions, healthcare providers, and research organisations across India.

In 2024, we established our Global Capability Center in Bengaluru as an investment to expand our technology workforce in support of both global and local customer bases. Additionally, we opened our Illumina Solutions Center in Bengaluru, which features a state-of-the-art genomic sequencing lab and offers training and educational opportunities to practitioners nationwide, thereby expanding our products and services footprint in India.

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