IDC ANALYST BRIEF
Sponsored by: Informatica

The exponential growth in data has fueled the need for secure, scalable infrastructure. Intelligent, cloud-based data platforms constitute the scaffolding on which life sciences companies are building their innovation strategies.

Stepping into the Future: Cloud-Based Intelligent Data and Analytics Platforms for Life Sciences

August 2022

Written by: Dr. Nimita Limaye, Research Vice President, Life Science R&D Strategy and Technology

Introduction

It has been a long-drawn battle for the life sciences industry. Data and application sprawl, disparate systems, legacy infrastructure, and data security and regulatory compliance concerns, as well as data interoperability challenges resulting from varying data standards between electronic health records (EHRs) and electronic data capture (EDC) systems, have stalled innovation and escalated costs over the years. In addition, mergers and acquisitions (M&As) and restructuring initiatives have only added to the complexity.

Owing to its relatively higher margins, the life sciences industry has developed a sense of complacency and tolerance toward these inefficiencies.

However, the pandemic has brought home the critical need for the life sciences industry to transition from reactive to proactive and from "data hungry" to "data savvy." The shift requires focusing on flexible and scalable cloud-native platform solutions to generate real-time insights that drive "patient centricity" and fuel innovation. For the life sciences industry, the future is now — this change is happening as we speak.

AT A GLANCE

KEY STATS

- According to IDC's 2022 *Life Sciences Digital Transformation (DX) Survey* of 200 life sciences companies, almost 90% of respondents ranked DX as a top priority, with 60% considering cloud and health data platforms as very important drivers of their DX initiatives.
- According to IDC's 2021 *Data Culture End-User Survey,* 87% of CXOs indicated that being an "intelligent enterprise" was a top priority, and 83% of CEOs wanted their organizations to be more data driven.

WHAT'S IMPORTANT

Scalable, cloud-based intelligent data platforms that offer secure data sharing opportunities, predictive real-time insights, and flexible pay-as-you-go models are addressing the need of the life sciences industry to accelerate innovation and build "patient-centric" solutions.

The Immense Value of Intelligent Cloud-Based Data Platforms

A scalable, cloud-based intelligent data platform can provide life sciences companies with the following benefits:

- **Provides integrated data management solutions to generate a holistic view of patient data:** Exponential data growth and data fragmentation challenges are putting regulatory approvals at risk, doubling the risk of adverse events, and endangering patient safety. Pharma has recognized the value that high-performance infrastructure and flexible data management solutions can provide to address such challenges and is investing aggressively in these solutions.
- **Reduces capex and opex:** Cloud data management solutions can lower the cost of acquiring new IT infrastructure while providing an opportunity to scale rapidly, leverage computing resources as needed, and pay for the resources used.
- **Reduces IT burden, ensuring data privacy and compliance:** Automatic upgrades and patch management reduce the maintenance burden on IT teams. In addition, critical data security and privacy issues are taken care of, allowing IT to focus on other transformational initiatives.
- **Enables collaboration and co-innovation:** Integrated cloud data platforms that can support data sharing across various cloud ecosystems enable the rapid replication of data in multiple locations while ensuring data security. Secure data sharing gains increasing importance as pharmas and biotechs are rapidly adopting multicloud strategies and are increasingly shifting toward co-innovation models supported by digital ecosystems.
- **Provides a single, secure, and governed source of truth:** Integrated data platforms generate a single source of truth (SSOT), which helps minimize data duplication and ambiguity and fuel data-driven business decisions.
- **Drives transparency, ensures traceability:** Metadata-driven intelligence and automation can build an integrated approach to cloud data strategy, addressing the increased demand for transparency of data use from both regulators and patients.
- **Accelerates compute, delivers real-time insights:** The life sciences industry is dealing with an explosion of big data, and the only answer is to leverage artificial intelligence (AI) and machine learning (ML) to be able to sift through this treasure trove of data and garner valuable insights.
- **Simplifies infrastructure, streamlines workflows:** According to IDC's May 2021 *Industry CloudPath Survey,* the top 3 benefits that the life sciences industry has sought to gain from the move to the cloud are simplifying and standardizing IT infrastructure and application platforms, improving customer experience (CX), and improving IT staff productivity.
- **Improves customer experiences, directs clinical trial strategy:** IDC's 2022 *Life Sciences Digital Transformation (DX) Survey* found that while three-quarters of respondents believe that DX initiatives played an important role in driving the success of the CX strategy, two-thirds of respondents believe that DX was important or very important in driving clinical trial strategy as well.

Considerations

As data grows more complex and multidimensional and as data sources continue to multiply, data is sitting in different locations, wearing different hats. There is a critical need to establish strong data governance models and delineate master data management (MDM) strategies to establish that single source of truth and ensure the traceability of data. Technology providers need to reinforce the importance of scalable and secure opportunities that collaborative federated data platforms have to offer. With the growing importance of real-world data, data platforms should offer an open architecture, powering interoperability. These platforms should offer ease of data ingestion and enterprise data management capabilities, providing scalability in the cloud to support data quality and governance. Platforms need to enable workflow automation and data integration across multiple workflows, yielding advanced predictive visualizations, driving business agility, and building digital resiliency.

The life sciences industry is highly regulated, and regulatory compliance is critical. Therefore, it is essential to drive compliance with regulations, such as 21 Code of Federal Regulations Part 11 (21 CFR Part 11) and the General Data Protection Regulation (GDPR). Concerns prevail regarding the loss of governance and the ability, therefore, to ensure compliance. Efforts need to be made to establish confidence and trust in these capabilities and address cultural resistance. Technology providers must demonstrate data stewardship and accountability to build trust.

Pharma and biotechs continue to exhibit a lack of trust in the data security and privacy offered by their cloud providers when it comes to moving their sensitive data and mission-critical applications to the cloud. The increase in the number of ransomware attacks and cybersecurity incidents during the pandemic has raised concerns in the life sciences industry. Yet, according to IDC's 2022 *Life Sciences Digital Transformation (DX) Survey,* two-thirds of respondents accelerated spending on digital transformation as a result of the COVID-19 pandemic. Survey respondents are leveraging intelligent data platforms to transition beyond the disruption caused by the pandemic and are building agile, patient-centric business models to accelerate growth in the aftermath of COVID-19.

Elevating Intelligence to the Cloud

A Deloitte real-world evidence (RWE) survey found that a lack of data infrastructure and/or business models to manage and analyze the data is the biggest challenge that the life science industry is facing. A McKinsey study demonstrated that organizations that leverage data outperform their peers by 85% in sales growth and by more than 25% in gross margins.

While the ability to leverage data is critical, the ability to garner insights from data is even more important. IDC's May 2021 *Industry AI Path Survey* reported an expected 65% increase in life science spending on AI as a percentage of the overall technology spend over the next 12 months. The critical importance of moving to the cloud for the life sciences industry is evidenced by the outcome of IDC's 2022 *Life Sciences Digital Transformation (DX) Survey,* which shows that three-quarters of respondents are planning on increasing their spend on the cloud by up to 20% and one-fifth of respondents are planning on increasing their spend by more than 20%.

Conclusion

There is a need to drive "data centricity" across the entire value chain, and an intelligent cloud-native data platform could make all the difference, delivering intelligence where and when it is needed. Thus, the need of the hour is a fine blend of a secure, scalable cloud-based infrastructure for data exchange with intelligent built-in predictive analytics tools and customizable visualization, complemented by deep expertise in enterprise data management and strong business transformation capabilities, to empower cross-functional teams and drive multi-organization collaboration.

The big data explosion is happening as we speak, and there is an urgent need to build scalable co-innovation models powered by cloud-based data platforms. They will shape the future of intelligence for the life sciences industry.

According to IDC's 2022 *Life Sciences Digital Transformation (DX) Survey,* 60% of respondents are focusing on identifying the type and quality of data platforms and devices that they need and half of respondents are working on optimizing data integration strategies. The increasing confluence of healthcare and life sciences and the massive explosion of data volume and diversity have created a critical need to develop integrated intelligent data platforms that can span healthcare and life sciences and provide the 360-degree view of the patient to optimize clinical outcomes, creating a personalized and enriched experience for each patient and thus scaling patient retention. The swift move to enterprise-grade, cloud-based intelligent health data platforms will differentiate the leaders from the followers in the fast-evolving life sciences industry.

About the Analyst

Dr. Nimita Limaye, *Research Vice President, Life Science R&D Strategy and Technology*

Dr. Nimita Limaye is a Research Vice President with IDC Health Insights and provides research-based advisory and consulting services as well as market analysis on key topics related to R&D Strategy and Technology in the life sciences industry. She addresses aspects such as the role of digital transformation in discovery research and eclinical ecosystems.

IDC Custom Solutions

The content in this paper was adapted from existing IDC research published on www.idc.com.

IDC Research, Inc.
140 Kendrick Street
Building B
Needham, MA 02494, USA
T 508.872.8200
F 508.935.4015
Twitter @IDC
idc-insights-community.com
www.idc.com