MarkLogic®

Operational Data Hub for Pharma
Streamline Processes and Accelerate Time to Insight

With new drugs requiring over a decade to develop at a cost of billions of dollars, today's drug manufacturers are under pressure to move products to market faster. Achieving this requires the ability to leverage the efficiency and productivity advantages promised by machine learning and artificial intelligence technologies. But, to pave the way for of these transformation initiatives, pharmas must first overcome some of the fundamental data challenges that prevent them from putting more of their data to use. These obstacles include difficulty in managing the high volumes of variable data, slow and arduous data integration processes, and ensuring governance and security of information critical to collaborative efforts across business units and partner organizations.

The common source of these problems? Data silos. From research and development (R&D) through to supply chains, data silos lead to inefficient, fragmented processes and critical information gaps across every stage of the drug lifecycle—slowing the pace of innovation in all segments of the business and increasing costs throughout.

How Data Silos Put Your Business at a Disadvantage

Research and Development
As pharmas struggle with the high cost of drug discovery and development processes, R&D business units continue to look for ways to shorten development cycles, streamline research processes across organizations, fail fast and understand where to invest earlier. With disconnected business units and the spaghetti-like architecture of traditional data technologies, the search is on for an efficient, unified data platform that accelerates the drug lifecycle from discovery to approval.

Pharmacovigilance
Once an adverse event is detected, immediate action is required to meet regulatory mandates for timely reporting. But, with disconnected data silos, separate warehouses for analytics and operations, and the use of rigid data technologies that require time-consuming data modeling, it can take months to draw insights from the massive amount of available safety literature.
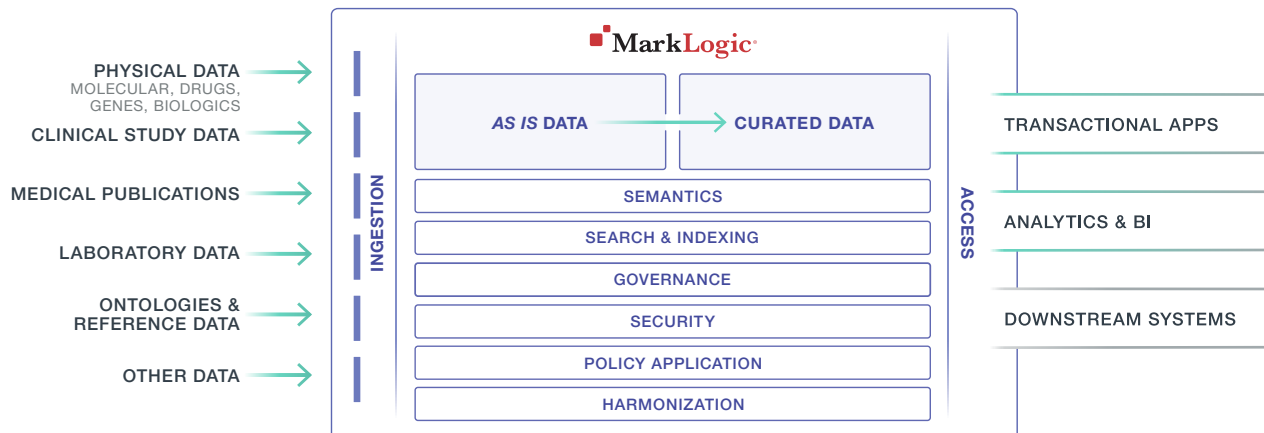
Supply Chain
Pharmaceutical companies often lack end-to-end visibility into fragmented supply chains, resulting in complex lot genealogy and batch tracking, process and order management inefficiencies, unplanned downtime, product inventory problems, high quantities of scrap, and temperature control challenges. These problems stem from data silos and can put the company's reputation and revenue at risk.

> " With MarkLogic, we can provide data to researchers faster, more affordably and more accurately than our competitors."
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> — Phil Hajduk, VP R&D Information Research, AbbVie

Achieve a Complete View of Data Faster With the Operational Data Hub

These challenges can be addressed by deploying an operational data hub (ODH) built on the MarkLogic database. The ODH enables pharmas to leverage all of their data on an enterprise-ready platform that drives innovation and efficiency across the organization, including the areas of drug development, regulatory compliance, and supply chain. The data hub provides a single source of truth across all sources of data, content and metadata, serving existing and future applications with a trusted source of record for key information.

The operational data hub for R&D in pharma

Enabling up to 10X faster application development, a complete view of data, intelligent search, improved data governance, and government-grade security, MarkLogic's ODH provides an efficient, agile approach to pharmaceutical data management. It also facilitates a more accurate and transparent view of every stage of the drug lifecycle, eliminating fragmentation of data while enabling new business models and increased operational efficiency.

MarkLogic is built with a flexible data model to ingest, manage, and search multi-structured information without sacrificing the data resiliency and consistency features of relational databases. With these capabilities, and features such as semantics and smart mastering, MarkLogic enables pharmas to more quickly gain actionable insight from data for faster time-to-market.

Pharmaceutical Companies Succeed With MarkLogic

- **A Fortune 50 pharma** built a metadata catalog in just six months to accelerate development of RWE, stating "MarkLogic's search, semantics and security features made it optimal to serve as the foundation for the next generation of our catalog."

- **AbbVie** stores, integrates and links R&D drug information from across five data repositories onto one searchable platform.

- **Amgen** is efficiently connecting data from across the supply chain, unlocking knowledge to improve lane carrier operations and ensuring compliance.

Experience the MarkLogic Difference

MarkLogic gives pharmaceutical manufacturers the ability to streamline operations and accelerate time-to-market for new products. As the world's best database for integrating data from silos, MarkLogic's platform solutions empower our pharmaceutical customers to achieve a complete and actionable view of data at less time and cost.

Visit www.marklogic.com to find out how leading pharmas across the globe are driving better performance with MarkLogic.