From research records and patient information to utilization details and supply chain monitoring, pharmaceutical firms have been managing vast amounts of data for years. However, as in virtually every industry, the era of big data has led to explosive growth in the volume, variety, and complexity of data. Roughly 70 percent of any data project now involves simply managing data—integrating, transforming, and cleansing it—before any actual analysis can begin. As the lead executive for one pharmaceutical company’s R&D department has said, “We have discovered the cure for cancer; we just can’t find it.” Meanwhile, the pharmaceutical industry is under particular pressure to innovate faster and more effectively while still controlling risks.

**Leveraging Information in a Changing Global Marketplace**

Pharmaceutical companies must balance costs and compliance against innovation at every stage of the product lifecycle. Realizing maximum value from clinical trials requires optimal use of resources to find participants and assess results. Outcomes-based reimbursement systems require the industry to justify the viability of available therapies by tracking their efficacy. Meanwhile, as healthcare reform proceeds and whole-patient care becomes increasingly prevalent, patients themselves are demanding greater visibility into outcomes to better evaluate whether specific treatments are worth their time and money.

At the same time, the interconnected world is spreading infectious diseases more quickly and introducing chronic diseases to more parts of the globe—but also creating new opportunities for both established and leading-edge therapies. Pharmaceutical companies need greater insight into the impact of political shifts, economic data, weather, and other local and global trends in order to better project demand, optimize supply, and establish “what if” scenarios. Additionally, protecting patients and brand equity from the repercussions of product theft and counterfeiting requires them to more closely monitor the supply chain, social media, and other data sources for suspicious events and patterns worldwide.

**Unlocking Big Data’s True Potential**

Pharmaceutical companies need to spend less time preparing data sets for analysis and more time discovering insights that they can turn into business value, such as:

- Identifying trial candidates and accelerating their recruitment
- Designing better inclusion and exclusion criteria for clinical trials
- Conducting virtual trials to build predictive models
- Uncovering unintended uses and indications for products
- Researching competitive products for strategic advantage

Unleashing the power of big data in the pharmaceutical industry calls for technology that integrates and manages new types and sources of data flexibly and scalably while maintaining the highest standards of data governance, data quality, and data security. This approach will let pharmaceutical companies increase efficiency, respond more rapidly to changing market demands, and ensure compliance while uncovering data relationships that lead to better outcomes.
Maximizing the Value of Big Data

To develop and deliver the next generation of successful therapies while addressing the challenges of compliance and globalization, the pharmaceutical industry must simultaneously minimize the cost of processing and managing data and maximize its value. This results in pharmaceutical company struggles, with integrating new data types and sources from around the globe, in addition to the need to glean insight from unstructured data. They also need to comply with multiple complex regulations governing drug safety, supply chain security, patient privacy, and other sensitive information. Finally, they need to uncover valuable but untapped relationships within this data in order to boost innovation and drive new value.

Informatica addresses these needs with a proven end-to-end solution composed of best-of-breed commercial products that data scientists can use to better interpret the context and content of data.

Informatica helps pharmaceutical companies rapidly create innovative products and services by integrating and analyzing new types and sources of data. It provides a proven path of innovation while lowering big data management costs and minimizing risk.
Handling Large Volumes of Heterogeneous Data
Pharmaceutical companies require technology that can transform, parse, and integrate vast amounts of data generated from multiple sources—census records, disease outbreaks, treatment and therapy data, histories of clinical trials, CRM and ERP data, and far more. The technology must be capable of integrating data at whatever speed and scale a company demands, from batch processing to near-real time.

The Informatica Platform manages, replicates, and integrates data at any volume and latency. It can handle up to twice as much data while identifying dormant data and archiving inactive data to low-cost storage, improving application and data warehouse performance as much as threefold.

Leveraging a Broad Variety of Data
Pharmaceutical companies must be able to transform and parse data from multiple sources and in multiple formats: databases, text files, scientific devices, transactions, and even social media postings. End users also need easy, consistent access to all of this data to create a 360-degree view of programs, patients, and partners.

Informatica technology supplies fast, dependable access to any and all types of data, from both traditional and emerging sources and at any latency in addition to also solving the problem of fragmented and disparate data problems by harmonizing data within a 360-degree view of critical information.

Managing Data Quality and Data Security
Lives literally depend on the pharmaceutical industry’s ability to work from complete, trusted, timely data sets. Pharmaceutical companies must optimize data processing across platforms and systems, both on premise and in the cloud. They must also identify, mask, and manage sensitive data for competitive advantage as well as regulatory compliance.

Informatica lets organizations optimize the entire data processing pipeline, including data privacy, with easier provisioning and processing in a hybrid IT environment for big data analytics that includes Hadoop.

Transforming Data Assets into Insight and Action
To create and deliver the right treatments at the right time, for the right patients, at the right cost, the pharmaceutical industry needs to measure and monitor metrics and trends of all types faster than ever before. Big data provides the necessary foundation for greater insight in less time.

Informatica’s end-to-end solution helps pharmaceutical companies affordably aggregate and correlate valuable data, both historical and real-time, and deliver it at the speed of business.

“Through 2015, organizations integrating high-value, diverse, new information types and sources into a coherent information management infrastructure will outperform their industry peers financially by more than 20%.”

– Neil Chandler
Gartner

1 “Deriving New Value From Merging the Worlds of Diverse Data”, April 2012
Big data gives the pharmaceutical industry an unparalleled opportunity to optimize research and clinical trials, project global trends, guard against counterfeiting and fraud, and improve treatment outcomes. Investing in data enrichment, integration, and management will allow the industry to combine real-time and historical information for deeper insight as well as competitive advantage.

Informatica’s core capabilities for integrating, moving, and managing data include six best-in-class technologies:

- **Enterprise data integration** coordinates all the data managed within the enterprise, including unstructured data.
- **Cloud data integration** helps you retain control over off-premise data managed in the cloud.
- **B2B data exchange** enables you to share and manage data with vendors, subcontractors, and other partners.
- **Ultra messaging capabilities** support situations where extremely low-latency, high-throughput delivery and dissemination of data are critical.
- **Data masking** enables the secure management of complex, sensitive governmental data for privacy and regulatory compliance.
- **Information Lifecycle Management** to handle that data cost-effectively and securely.

We also deliver three best-in-class technologies to unlock greater value in all this data:

- **Data Quality** to cleanse the data and ensure that it’s trustworthy.
- **Master Data Management** to govern the most strategic information assets and ensure that you can use them for optimal effectiveness.
- **Complex Event Processing** to sense events as they occur and act upon all the data coming in.

The Informatica Platform provides all the capabilities the pharmaceutical industry needs to ensure that it can integrate and manage ever-growing volumes of data while using that data to innovate faster and achieve optimal results.