

Advancing Digital Innovation in Life Sciences Towards a Healthier Future for All

Accelerate drug development and discovery and improve
provider relationships with AI-powered cloud data management



About Informatica

At Informatica (NYSE: INFA), we believe data is the soul of business transformation. That's why we help you transform it from simply binary information to extraordinary innovation with our Informatica Intelligent Data Management Cloud™. Powered by AI, it's the only cloud dedicated to managing data of any type, pattern, complexity, or workload across any location—all on a single platform. Whether you're driving next-gen analytics, delivering perfectly timed customer experiences, or ensuring governance and privacy, you can always know your data is accurate, your insights are actionable, and your possibilities are limitless. Informatica. Cloud First. Data Always.™



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In a Fast-Evolving Life Sciences Industry, Data Is the Catalyst for Competitive Advantage

Life sciences organizations handle enormous volumes of complex data, relating to everything from drug research, discovery, and development to customer relationship management. Having the ability to access the right data — and unearth and leverage the right insights at the right time — is more critical than ever. How to achieve that? AI-powered data management and governance are key.

For example, by spending less time managing and preparing data for analysis, organizations can accelerate drug discovery and development, making these processes both more efficient and less financially uncertain. Organizations can also better understand their target accounts with a complete view into all their customer information. And, they can create more value from mergers and acquisitions and better comply with regulations by efficiently integrating data and applications.

Digital supply chain management can benefit as well. According to a recent survey, strong digital capabilities can help procurement organizations improve data visibility and the ability to collaborate and synchronize with suppliers, enabling greater agility both within these organizations and across the extended supply networks.¹

Growing Revenue with Customer Insights

The ability to understand relationships between and within target accounts and providers is crucial for expanding revenue. To understand current demand and accurately predict the products that their customers will want in the future, life sciences companies need to gain insights from data. They need knowledge about a customer's organization, location, and the characteristics of their relationship with that customer, and they need to understand the customer's satisfaction with their products.

The most effective and efficient way to use data to predict what customers want is to apply AI-powered data analysis tools. Offering the ability to crunch huge volumes of data and produce real-time insights, these solutions can also eliminate manual analysis tasks. But these technologies will not yield insights running in just any IT environment. To gain maximum benefit in a cost-effective manner, companies must run analytics applications on a modern, cloud-native infrastructure. The cloud is a game changer for companies looking to truly transform how they address the shifts in customer behavior and preferences in real time.

A cloud-native data management platform also helps organizations deploy new business applications quickly, simply and on time. Running these tools on the cloud is the best way to ensure effective, timely integration of the data received by these applications and the data they generate across the enterprise. Organizations should also be prepared to invest in cloud data lakes and cloud data warehouses. These capabilities support advanced self-service analytics. They can also help identify ways to engage with customers across multiple channels.

¹ <https://www2.deloitte.com/us/en/insights/topics/operations/chief-procurement-officer-cpo-survey.html>

Driving the Breakthroughs of Tomorrow with the Data Insights of Today

Drug discovery has traditionally been a slow process. Data is required to pioneer new medicines for diseases that threaten humanity worldwide. Effective data management is the key to bringing the full force of scientific and medical expertise to deliver trusted medicines and treatments in areas such as cancer, diabetes, immunology, and neuroscience.

However, the sheer volume and diversity of data, and the siloed way it is collected and stored, stand as barriers to gaining insights. This makes it critically important to have a shared understanding of what data means. Doing so will help ensure that data is used appropriately and that the meaning, nuances and limitations are clearly understood by all. Data governance can solve this challenge.

Pharmaceutical companies need to find new ways to govern all the pharmacological and research data, and to manage it as a strategic asset, which can help the industry achieve its clinical goals more efficiently. Today, artificial intelligence (AI) is greatly shortening the time that life-saving pharmacological research used to take – from years to weeks in some cases – and AI is playing a key role in ensuring that trustworthy, relevant, and timely drug-discovery data can be used to understand and eradicate global disease threats.

AI-driven analytics and automation with machine learning (ML) are two of the biggest technological strengths that the life sciences industry has today to surmount global disease challenges. However, these would ultimately fail without access to large, high-quality, clean, and trustworthy data sets. AI is enhancing productivity, helping to onboard ever-increasing amounts of data, and enabling a seamless data environment for patients, providers, and researchers. But it will take a concerted effort to unlock science through open computational tools and data storage platforms and to develop data-science aware workforces that can use the connected data environment.

Pharmacological researchers are also becoming increasingly adept at using the power of ML for automating clinical challenges – like predicting, anticipating, and proactively eliminating the inefficiencies and process breakdowns that often occur on the way to starting clinical trials and advising on best courses of action. This is accelerating the pathway to clinical trials and is leading to quicker vaccines, as in the case of COVID-19. The urgent need is to unify and integrate disparate data sources together in one place and to enable clinical pharmacologists to use novel ML techniques to generate new life-saving drugs.

Speeding Clinical Trials with a Complete View of Data

Pharmacological researchers and clinicians can work smarter and more efficiently by using AI to automate data management tasks in much the same way they are using AI to automate predictive analytics to overcome clinical challenges. AI-driven enterprise data management is the best way to govern the volumes of structured and unstructured data at the heart of pharmacological research, to improve time to market across the therapeutic delivery lifecycle.

The ability to detect, measure and manage risk remains a challenge for chief procurement officers. Making direct investments in and prioritizing the fixing of data and making processes predictive and autonomous can help create measurable impact.²

AI-driven master data management will enable clinical trials to go much faster by providing 360-degree views of clinical trial locations, names, patients, providers and products. Clinical organizations are also automating the creation of study protocols to improve operational efficiency. In regulatory processes, organizations are challenged with supporting more rapid approval requirements from the U.S. Food and Drug Administration (FDA) and the European Medicines Agency (EMA), including quicker analysis and submission of data.



Enhancing Manufacturing and Supply Chain Efficiency

Companies in all industries rely on increasingly complex global supply chains to fulfill their business and IT objectives. Supply chain processes affect speed and efficiency in delivering a manufacturer's output, as well its quality – and more than ever, customers want timely and uninterrupted delivery of high-quality products and services.

Managing supply chains requires on-demand, near-real-time access to trusted, relevant data about everything from bills of materials and supplier challenges to shipping routes and customer demand. However, customer, supplier and proprietary data is often spread across multiple siloed systems and applications across regions and business units, which can render it outdated, inaccurate, inconsistent, incomplete, and fragmented –not ideal for decision-making, risk mitigation or supply chain optimization.

It's even more challenging for life sciences organizations that have gone through acquisitions or work across geographies. Using advanced technologies, data and process analytics, business intelligence, and AI and ML can ensure end-to-end transparency, agility and responsiveness in supply chains, making them more efficient, cost-effective and resilient – and less prone to risk.

In addition, implementing data-driven manufacturing such as predictive analytics, digital twin simulation and the implementation of smart factories with IoT and flexible manufacturing and automation will speed up manufacturing timelines and also increase the agility of supply chains.

² Deloitte Global 2021 Chief Procurement Officer Survey, Deloitte Impacts

It's only when life sciences companies have comprehensive insights into suppliers, products, materials and customer data that they can get a better understanding of macro demand trends, enable rapid identification of alternate suppliers, improve collaboration and automate supplier onboarding for faster time to market.

Building Supply Chain Resilience with a 360-Degree View

Creating a trusted, 360-degree view of the supply chain across a supplier network helps life sciences companies build supply chain resilience and, by ensuring data quality, save millions through better business decisions, effective operations and logistics, and complete procurement information.

By fueling all supplier-facing applications, business intelligence tools and analytics programs with trusted, governed, up-to-date supplier data, the finance, legal and supplier relationship management teams can more easily monitor and analyze supplier risk and compliance. That 360-degree view also enables them to access alternate suppliers in case of supply chain disruption.

Creating Value through Mergers and Acquisitions

Advancing scientific expertise and understanding the causes and modifiers of complex diseases will require access to disparate and new data sources. Life sciences companies are more frequently leveraging ecosystem partners to continue to access, integrate and analyze this external data. By partnering with or acquiring diagnostic or data companies to access genomic, microbiome and other personalized patient data, organizations can better understand patient disease characteristics and the patient journey.

However, every aspect of the business gets impacted from these events, from sales, marketing, risk and compliance to the customers of each organization. The hard work of rationalizing, migrating, consolidating and integrating systems and data between companies usually begins after a deal is announced or completed.



Corporate functions including finance, legal and risk management groups must have access to the right data to avoid disrupting day-to-day operations. Sales and marketing organizations need to quickly identify who their customers and prospects are to support cross-sell opportunities while avoiding problems that could affect their ability to service existing relationships.

Critical capabilities are required to fully understand the data lineage of data sets that have varying degrees of quality. Data quality enables the seamless integration of external and internal data sets, establishes trust in the data, and inspires self-service access to data. Supporting data collaboration within and across organizational boundaries is also becoming a top need. Leveraging the speed, agility and cost-effectiveness of the cloud can enhance collaboration can help support mergers and acquisitions and working with AI start-ups.

Breaking Down Data Silos with Robust Data Integration and Metadata Management

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Breaking down data silos across the life sciences enterprise is made even more complex by having to do so not just within a single organization, but also spanning across multiple organizations. This is nearly impossible to do without robust data integration and metadata management capabilities that empower all data users to view, analyze and collaborate with research, regulatory and commercial data both within their own organizations and across others.

Ensuring Data Privacy and Regulatory Compliance

There are many quality guidelines and regulations created to ensure that biopharmaceutical products are safe, meet their intended use, and adhere to quality processes during manufacture, control, storage, and distribution. Regulations like GxP and a host of data privacy laws like the EU General Data Protection Regulation (GDPR), California Consumer Privacy Act (CCPA), the Health Insurance Portability and Accountability Act (HIPAA) and others are applicable to patient data across the life sciences ecosystem.

Organizations must ensure that privacy is respected when sharing patient data in clinical trials and with third parties and address data ownership and the acceptable use of patients' data. Increased use of data (such as genome, wearable-sourced and biometric data) to support personalized and targeted medicine has made it critical to manage data privacy and support customer data access in a compliant manner.

Enabling Collaboration and Self-Service Data Access

Data privacy regulatory compliance requires life sciences organizations to measure, monitor, segregate, and securely store patients' personal data. To achieve these goals, organizations must implement effective data management and governance capabilities to manage massive amounts of data and make essential, high-quality, accurate data available to all teams to enable collaboration and self-service access.

Operationalizing a complete data privacy framework enables responsible access and use of data, maintains data protection, and unleashes value creation. Organizations can ensure trusted data for all by making data lineage fully visible and creating a complete glossary of every data domain. Reducing data risk exposure with advanced analytics identifies risk potential, automates remediation, and closes governance and compliance gaps between various teams.

A modular, fully integrated platform offering AI-powered domain discovery, data similarity and lineage, and business-term associations and recommendations makes it easier to locate and manage personally identifiable information, streamline compliance, and ensure data privacy. Adoption of high-quality, compliant data gradually grows across the enterprise, increasing trust in enterprise data and making it available for research, analysis, and pharmaceutical innovation.

How Life Sciences Companies Are Succeeding with Informatica

In Practice: Reducing R&D Costs by Up to 50%

Takeda, a multinational pharmaceutical and biopharmaceutical company, is one of the top 10 largest pharmaceutical companies in the world. They wanted to build a platform for the whole enterprise that enables quick, easy access to analytics tools to speed research and development.

Takeda invested in Informatica® to enable quick, easy access to analytics for faster R&D. They went to a cloud data lake for advanced analytics with Informatica to handle data volume, costs, and speed of implementation. With Informatica and Databricks, Takeda estimates a 40% to 50% cost reduction, avoiding clusters and taking advantage of auto-scale and auto-deploy. They plan to support new use cases in data science, ML and real-time integration.

In Practice: Ensuring High-Quality Data with Data Scorecards

Eli Lilly and Company is a global healthcare leader whose dedicated pharmacological researchers and clinicians work to discover and bring life-changing medicines to those who need them and improve the understanding and management of disease. Lilly operates in a highly regulated industry in which requirements and key performance indicators vary from country to country. With pharmaceutical products marketed in 120 countries and clinical research conducted in more than 55 countries, Lilly must fully document its systems and respond quickly to data subject access requests (DSARs) in accordance with the GDPR and the CCPA.

Informatica provided Lilly with the capabilities to track personally identifiable information so it can be properly protected while ensuring high-quality data through data scorecards. The solutions allow a single repository to demonstrate and enable data governance, metadata management, data quality, data discovery, and data lineage.

“The drug development process rests on the high-quality data being used to make informed decisions during the evolution of a product or treatment. IQVIA’s Infosario clinical data management platform gives researchers and drug developers the knowledge needed to improve decision-making and ultimately increases the probability of success at every step in a product’s lifecycle.”

— Richard Thomas, Chief Information Officer, IQVIA

In Practice: Enabling Better Outcomes with Greater Predictability

IQVIA is the world’s largest provider of biopharmaceutical clinical development and commercial services with a network of more than 28,000 employees conducting business in approximately 100 countries. The company has helped develop or commercialize all the top-50 bestselling drugs on the market.

IQVIA’s data was fragmented across multiple systems and required extensive manual manipulation before becoming useful. Incompatible legacy systems impeded data integration and normalization and prohibited a holistic view across all sources. The lack of automated business event monitoring and alerting did not allow corrective actions to be initiated in a timely manner.

Using Informatica solutions, IQVIA was able to rapidly combine and harmonize data from multiple heterogeneous sources into its Infosario Data Factory repositories to accelerate master data management, reporting and analytics with data-driven processes and archival capabilities. The company leveraged data federation and virtualization technologies to provide information from disparate sources in a timely manner without affecting the underlying foundational enterprise data warehouse.

Out-Evolve the Competition with Informatica

From the seamless sharing of trusted, real-time data and insights across the enterprise to providing robust data governance and compliance capabilities, Informatica has the complete enterprise data management solution and expertise to turn R&D expectations into reality.

Informatica’s Intelligent Data Management Cloud delivers a complete architecture and roadmap for life sciences companies to rapidly improve data quality and availability. You can overcome data challenges at an enterprise scale, and leverage AI and ML to automate data management tasks and operational workflows.

With the Informatica Intelligent Data Management Cloud, you can accelerate drug development and discovery by:

- Connecting every data source regardless of location or type using a plug-and-play architecture and a complete menu of APIs, microservices and other data connectors
- Ensuring that everyone is using trustworthy, high-quality data by automatically applying best data practices for governance, compliance, and role-based access
- Establishing a complete, contextual view of all data with automated, intelligent discovery and providing self-service that empowers every team to streamline and improve
- Facilitating data sharing and data democratization with a data marketplace and data services
- Delivering virtually limitless scalability in the cloud to support current and new data quality, governance and availability requirements as well as ever-growing volumes of data

Ready to Unlock New Value from Your Ever-Increasing Life Sciences Data?

Informatica helps life sciences companies turn data into a strategic asset, wherever it resides — in an on-premises, hybrid or multi-cloud environment. Our solutions ensure that your data is trusted, governed, relevant and accessible to help you improve efficiency and maintain regulatory compliance.

Informatica provides low-code/no-code data discovery, ingestion, quality, mastering and synchronization capabilities that are pre-built and ready for configuration — with no customization needed. Our AI-powered data management and governance solutions — coupled with cloud accessibility and scalability — can help you solve your most pressing data challenges and execute your most ambitious life sciences initiatives.

Next Steps

For more information about how Informatica can help you unlock the full value of your data, visit www.informatica.com/life-sciences



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