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KNOWLEDGE-DRIVEN SUCCESS

KEYS TO SUCCESS

The two imperatives for business success and breakthroughs in drug development are:

- Speed to insight, which connects disparate information and data resources, empowering faster, more informed decisions at all levels of the business
- Value for cost, which enables more value to be extracted from new and existing technologies for a better return on investment

Success in the life sciences industry is increasingly determined by access to information. Microsoft's Paul Mattes explains how breaking down information barriers is the key to breakthrough drug development.

Life sciences companies must deliver on two critical imperatives to achieve business success and breakthroughs in drug development (see box above). Success, as outlined here, can be realised with innovative technology solutions that provide a rapid, cost-effective approach for people working in life sciences to achieve breakthrough results in areas such as business performance, R&D, manufacturing and product innovation. Technology solutions must enable seamless collaboration between industry professionals, customers and business partners, to improve operations and decision-making across the industry value chain, empowering people to focus on delivering the next generation of innovation.

The Knowledge Driven Life Sciences vision and solutions framework is Microsoft's response to the needs of life sciences organisations as they look to maximise the value of their existing business models. Recognising people as the most important asset to the industry, it is critical that they are empowered to deliver the best possible results through real-time access to information. By implementing the technology solutions offered under Knowledge Driven Life Sciences, the workforce can connect, collaborate and stay more informed across information barriers, driving success in business, drug development and consumer health.

Connecting people for success

Life sciences companies, including those working in pharmaceuticals, biotechnology and medical devices, face unprecedented business challenges as they target the discovery,

development and distribution of new drug therapies in a highly regulated and fragmented ecosystem. While R&D costs continue to escalate, companies must address expanding global regulations, expiring patents and mounting pressures from an increasingly cost-conscious consumer to deliver cheaper therapies. Increasingly, technology is being leveraged across life sciences organisations to streamline processes extending from sales and marketing to R&D, from manufacturing to business administration.

In this highly competitive business environment, life sciences companies will need to transform themselves into highly collaborative, consumer-focused companies to be successful. Although organisations will benefit from a talented workforce, they also have to deal with the inefficiencies of legacy information infrastructures. Built on a complex mix of proprietary solutions, and assembled application by application over years, and often by many organisations, these systems have served as the foundation for a number of remarkable innovations over the past few decades. However, they now inhibit the flow of information from person to person and between organisations, adding significantly to the cost of development and limiting the potential for innovation.

Further challenging the flow of information is the nature of the life sciences industry, with company resources scattered around the globe, a mobile sales force and clinical trials taking place simultaneously in several geographic locations. Successful decisions hinge on the ability of people to connect to the most up-to-date data, when and where they need it.

In accordance with the vision outlined by Knowledge Driven Life Sciences, Microsoft and its partners have developed solutions that cross the life sciences value chain. This shared vision acknowledges that only through transparent integration of operations across different areas will companies be able to realise the kind of efficiencies needed to achieve breakthrough success.

Discovery and innovation

To streamline the critical business processes in discovery and product innovation, two issues must be addressed. The first is the complex mix of disconnected data sources that companies use for storing information related to molecular structures, engineering information, disease states and targets, laboratory notes, and compounds. The second is connecting researchers across the globe and providing them with relevant information.

The right technology solutions can provide researchers with a single, comprehensive view of internal research and external resources, making it much easier to perform target identification. For instance, the ability to aggregate all information related to previously researched compounds can lead to faster identification of the resource that can best address the target.

Microsoft's Scientist Workbench is one such solution, which integrates and renders data from lab equipment, informatics sources and genomics repositories, and enables scientists to annotate and share insights in a highly collaborative and secure environment. New technologies such as knowledge and social networking are also available to help professionals find experts and contacts by analysing the social distance from one another and showing how they can connect through shared colleagues.

R&D

Over 30% of the costs associated with bringing new therapies to market are incurred during the R&D phase. The ability to reduce the duration and expense of this cycle has a direct impact on the time to regulatory approval and the time to peak revenue.

The increasing volume and complexity of the data collected during clinical trials is a barrier to effectively managing the overall process. Finding, using and sharing the wealth of information generated in the trial process are essential in helping companies reach informed conclusions quickly. Solutions that accelerate the flow of information in the R&D cycle have the potential to improve operating efficiency and overall corporate performance.

Microsoft and its partners are delivering software solutions that make compliant collaboration and document management easier and more intuitive. For example, information workers can now quickly create secure team sites to store, share and track documents generated in the R&D process. These sites leverage robust workflow and document management capabilities, and are automatically available inside familiar software applications such as Microsoft Office, so users do not need to learn new programs just to share information.

Using these tools to connect to enterprise applications and diverse data stores, such as SAP, along with remote data capture and clinical trials management systems applications, further accelerates the flow of information that is the lifeblood of the R&D process.

Manufacturing and the supply chain

Manufacturing and the supply chain is increasingly recognised as a source of competitive advantage for life sciences companies. While supply chain management, enterprise resource planning, plant-floor visibility and track-and-trace solutions have enabled cost reductions across a range of industries, supply chain and plant floor expenses in life sciences have remained high. The problem is that production planning and information monitoring are stored in isolated, proprietary systems, making it difficult to respond with sufficient speed and accuracy when problems occur.

Drug safety initiatives, technical innovation and lean, demand-driven practices are changing the way supply chains operate. Solutions must enable tighter integration and compliant collaboration, within a company as well as outside, in the distribution channel. This allows participants in the supply chain to collaborate while maintaining compliance in their document and records management functions. The Knowledge Driven Life Sciences framework provides built-in business intelligence features that streamline data integration and improve batch track and trace.

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Sales and marketing

Life sciences companies are being forced to rethink the way that they market and sell their products. An ever-increasing deployment of sales representatives has realised low incremental return, while the amount of time that these representatives spend with physicians has shrunk over the past five years.

Pharmaceutical executives are faced with a number of difficult questions as they develop their strategies. How big should our sales force be? How do we allocate resources and efforts across products? How do we improve the value of interactions with physicians and with consumers? Answers can be found through more targeted information delivery at every intersection point with key audiences. By collating and analysing customer information, sales representatives are in a position to deliver more relevant and timely communications in the limited time that they have.

With Closed Loop Promotion, sales representatives can access detailed data about a physician prior to each visit, and tailor product information to match each profile. Following this interaction, they can feed data through a central sales portal, providing real-time information to refine marketing and strategy.

Realising success

People can deliver on the industry's two critical imperatives: speed to insight and value for cost – if they are armed with the right tools. Designed to provide a technology infrastructure that reduces complexity, streamlines information flow and improves collaboration and productivity, Knowledge Driven Life Sciences opens the door to integrated innovation giving life sciences companies the competitive edge they need to pull ahead. **END**