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CASE STUDY:

Digital Transformation Strategy and Roadmap for a Global Biopharmaceutical Company

OVERVIEW: One of the world's leading biopharmaceutical companies was seeking assistance in developing a multi-year digital transformation strategy encompassing their global Research and Development (R&D) Sciences divisions. The drive towards significant increases in R&D productivity can only be achieved through scalable, integrated, and automated solutions coupled with deep understanding of the human component for change management and information sharing.

Astrix brings over 25 years of experience assisting large science based organizations in defining and implementing their digital strategy efforts.

The Astrix team, comprised of senior industry architects and change agents, services delivery leadership, seasoned business analysts, and deep technical application and platform experience provided a best in class collaboration to deliver on these digital strategy goals including: integrated R&D data and analytics; improved data-driven insights; better, faster decisions and therapies for patients.

BUSINESS CHALLENGE: The customer needed to develop a program to define representative Use Cases and harmonized Data Ontologies to inform the digital strategy roadmap across R&D Sciences.

- Selection and development of representative Use Cases
- Development of harmonized Data Ontologies for the Use Cases
- Define the Future State Implementation Plan
- Selection of Data Capture and Integration platforms

SERVICES PROVIDED: The project definition was divided into six major workstreams that comprised the company's R&D Sciences Digital Transformation Strategy project.

Project Initiation and Onboarding. The Astrix Team reviewed all available information about the company's environment, processes, and procedures to become familiar with their efforts thus far. A planning kick-off meeting was held to finalize the project approach with input from the company to establish a shared project vision and focus. A project plan along with a governance and communication strategy was developed at the conclusion of the kick-off meeting.

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Use Case Analysis and Prioritization. Workshops and interviews were conducted to gain consensus on the level of actionable detail in the Use Cases, identify the areas requiring further elaboration, and to determine the overall priorities of the individual Use Cases. Deliverables from this phase included:

- Business Process Map Updates
- Gap Analysis Opportunity Matrix
- Map of Cross Use-Case Overlaps

Current State Technology Assessment. The assessment and recommendations for each current state system included the characterization and analysis of these system aspects:

- Functional: overall system usage, configuration, customization, and user-level integrations
- Operational and compliance: administration, supportability, disaster recovery, operational cost, upgrade history, audit/compliance support
- System quality: reliability, availability, integrity, performance, usability, security
- Deployment: deployment model, system infrastructure, network infrastructure
- Data quality: current data volume, data records retention / compatibility, capacity and scalability, data architecture and technical accessibility
- Integrations: support for authoritative data, integration designs and implementations, system dependencies
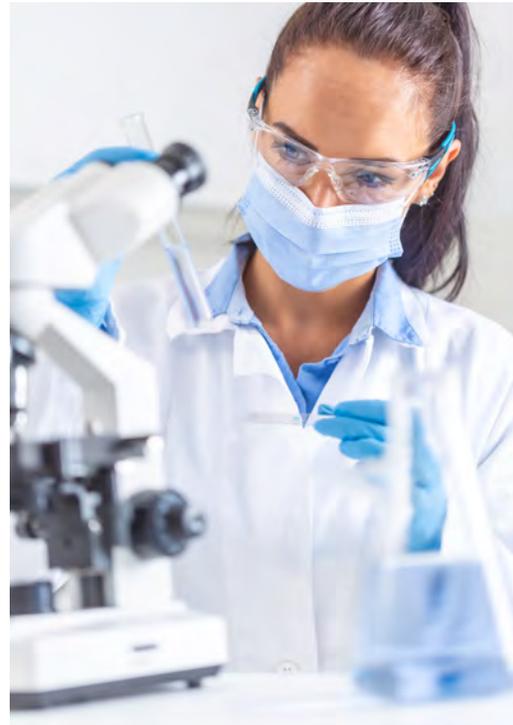
Future State Data Architecture. Analysis of the Use Cases and workflows during the development of Data Architecture formed the basis for creating the underlying requirements for:

- Ensuring data quality and integrity in laboratory operations systems
- Providing classification to support data find-ability and re-usability
- Minimizing time consuming and error prone manual integration and transcription
- Minimizing duplication and the potential for stale reference data
- Supporting the lifecycle and provenance of data
- Supporting the use of volatile data

Future State System Architecture. The Systems Catalog was prioritized based on Use Case and impact on workflows, as well as their impact and risks against the Data Architecture. The Deployment Architecture was structured into waves to allow for staged introductions of new and enhanced data capabilities. Recommendations from the team were provided through the following deliverables:

- Updated data catalog with System usage of assets.
- Systems catalog with Data Asset relationships and prioritization
- Systems data requirements: logical data models, quality, compliance, master data and reference data needs
- Systems Map: Annotations of the Use Cases and workflows against Systems

Platform Options and Decisions. The Astrix team generated practical recommendations for additional systems, opportunities to consolidate existing systems and incorporate platforms, and defined the implementation of the Data and System Architectures through the following tasks:

- Detailed positioning of current systems against the future System Catalog based on their Current State Technology Assessments
- Prioritized list of potential future systems and platforms against the Use Case and workflow analysis
- Analysis of the potential costs and benefits for platform approaches to common collaborative activities such as "requesting" and "tracking", as well as overarching aspects of unstructured data (document) management
- Extraction of overall data asset inter-system flows from the system data requirements into an Integration Strategy
- Development of objectives for system operations, administration, and monitoring to support cost effective operation and ongoing metrics for use in future planning

RESULTS DELIEVERED: Effective strategic planning and business process analysis ensures the success of your digital transformation project. Using The Astrix Approach™, a proven methodology based industry best practices surrounding the laboratory informatics enterprise, the Astrix team provided a comprehensive multi-year digital transformation strategy for the biopharmaceutical company's global Development Sciences divisions to achieve operational excellence.

The Astrix project team defined Use Cases and harmonized Ontologies to inform the company's digital strategy roadmap, including a current state technology assessment, the development of a future state data and system architecture roadmap along with recommendations for common collaborative, integration, master data management, and operational platforms.

There are key strategies for managing an organization through the transformative change resulting from a large initiative like the Development Sciences Digital Transformation Strategy. Consideration must be given to WHO is affected by the change, WHEN to engage specific teams or individuals in the process, and HOW to shepherd an organization through change to minimize the disruption. The early initiation and onboarding stages of this project included deliverables of clear communication strategies at every level of the organization and alignment on the framework of the overall project.

Digital Transformation is a journey, not a destination. Executing on a well-developed strategy provides the foundation for your digital transformation program. Collaboratively overseeing the program governance, communication strategy, and vendor relationship efforts across all workstreams are essential to the sustained success of your program. Excellence in business engagement is a fundamental tenet of the staff that Astrix brings to this program so that even shifting or iterative goals are well understood and communicated appropriately along your journey. This communication strategy will allow the program to celebrate successes and minimize the rumor mill that inevitably occurs in a vacuum of information. This is particularly critical in a long term, transformational effort.

ABOUT US:

Astrix has been an industry leader for over 25 years in helping scientific organizations implement and integrate improved informatics systems in the laboratory. Our experienced team of expert informatics consultants bring together technical, strategic, regulatory and content knowledge to provide the most effective solutions to problems faced by scientific organizations. Our domain experts have helped hundreds of companies globally effectively navigate their digital transformation journey. Visit astrixinc.com for more information.

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