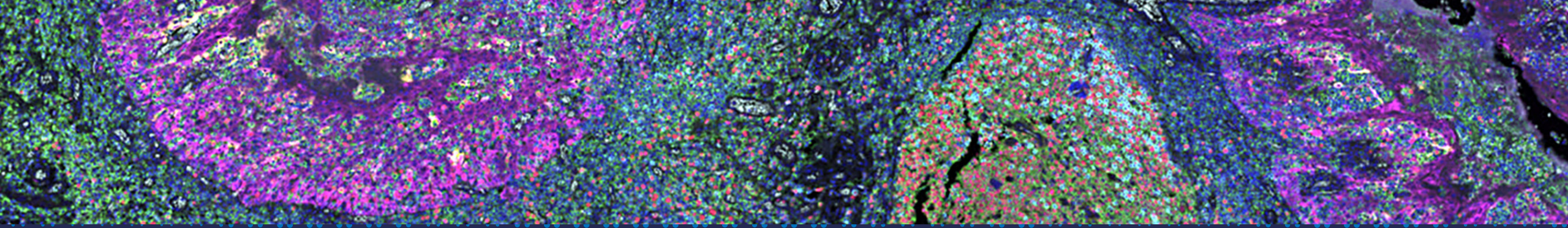


CASE STUDY

Biopharma Company Boosts Innovation and Efficiency with an Enterprise Pathology Platform

PROSCIA®

OVERVIEW

Understanding the effects of drug candidates and other agents on humans, animals, and the environment is a critical step in the biopharmaceutical research and development (R&D) value chain.

To increase pathologists' efficiency, accelerate the process of getting new medicines to patients, and gain more value across the drug development pipeline, one global biopharma company deployed an enterprise digital pathology platform.

Learn how they reached their objectives through streamlined workflows and enhanced collaboration, while also reducing costs across the toxpath lifecycle.

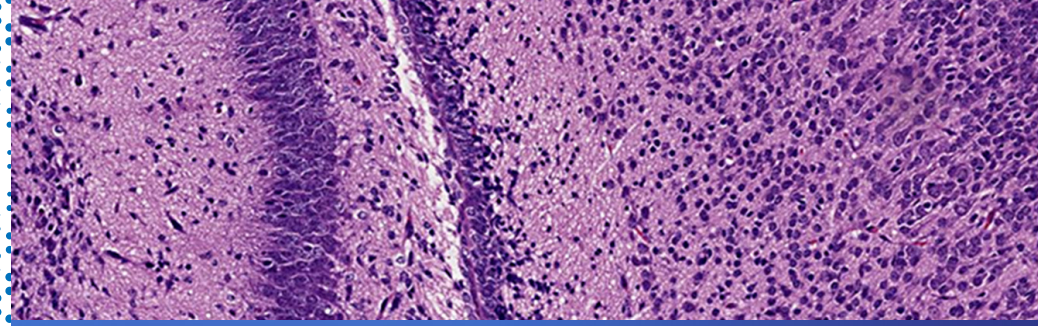
Discrete, Disconnected Systems Inhibit Pathology Insights

As part of its R&D processes, the biopharma company creates, reviews, archives, and manages huge numbers of toxicologic pathology (toxpath) slide images. Using these images, pathologists evaluate compounds, identify potential targets for treatment, conduct testing on cell cultures, and evaluate the safety and efficacy of drug candidates. Some of these images are handled internally, while others are outsourced to contract research organizations (CROs).

The company had been using fragmented technology stacks and discrete applications to ingest pathology images and data. Many image systems were developed or purchased for specific needs or workstreams. Individual departments often acquired expensive scanners and used their proprietary software to capture and store some images. The company also used various software products for image analysis. Still other solutions handled image management workflows between the discovery and development phases.

Because these discrete systems were unable to communicate with one another, image access was cumbersome for researchers – especially those outside a pathology group. As their pathology solutions lacked automation, teams used inefficient manual workarounds to import and share images and associated metadata. But these processes made true peer review impossible.

At the company's CRO sites, pathology teams stored data on their internal systems and shared it with the company using FTP sites or hard drives – which also required shipping the physical devices. Exchanging data in this way had become expensive, time-consuming, and risky.



High-Volume Image Management

5-6
studies conducted per month

2,000+
pathology slides processed per month

220,000
slides created, managed, and stored per year

To Succeed, Put Pathology at the Center of Research

Science and business executives wanted to digitally transform the company's pathology systems and workflows. Their goal was to deploy an end-to-end solution that could support pathology practices from discovery and research to preclinical R&D and clinical trials. The organization aspired to create a central platform that could serve as the center of its digital pathology ecosystem for both internal teams and their CRO partners.

The new solution needed to integrate critical systems – including a laboratory information management system (LIMS), imaging and image analysis, quality assurance, and multi-vendor scanning technology. It would also act as the system of record for both pathology image management and pathology-related workflows.

In addition, the technology needed to support regulatory compliance, making it easy to meet Good Laboratory Practice (GLP) management controls for both clinical and preclinical processes. Team leaders also wanted a solution that could incorporate new and emerging technologies, such as fluorescence for spatial biology, artificial intelligence (AI), and deep learning.

Concentriq Supports Today's Digital Pathology Processes and Tomorrow's New Technologies

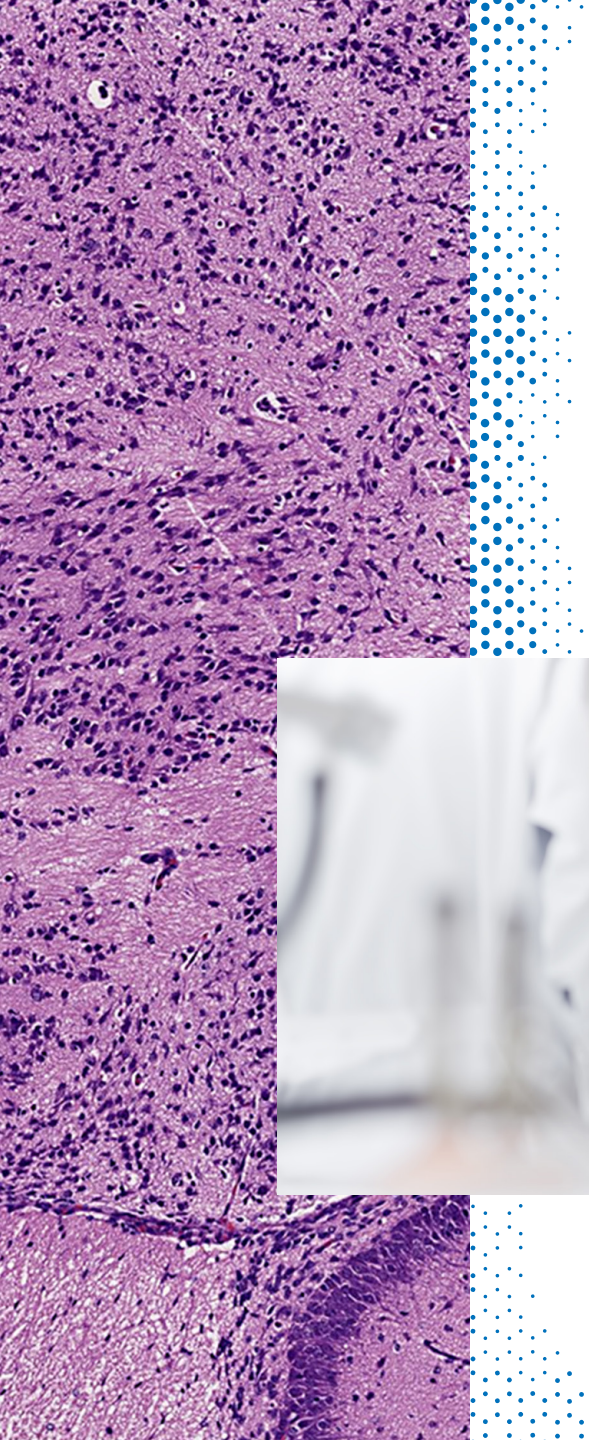
To meet these goals, the company deployed Proscia's Concentriq® digital pathology platform. This enterprise solution integrated seamlessly with the company's existing hardware and software, including scanners, image analysis, and pathology workflow applications.

The implementation team began by using Concentriq to locate stored images in the organization's molecular pathology group. The platform helped the team capture clinical trial data for the group. By collecting and storing images and data, Concentriq created a system of record for the team's pathology processes.

Now the company is beginning to engage the product's sophisticated image analysis capabilities, using Concentriq to integrate with other analysis software. Pathology professionals can easily point and click on an image, generate analyses, download the file to a spreadsheet, and use models to interpret the data.

To support peer review, the company uses Concentriq workflows, allowing scientists to access images and collaborate on analysis. The company also is in the process of connecting Concentriq to its LIMS solution, which will help users get a more complete view of images and data.

Immediately after going live with Concentriq, the team decided to expand the platform's use from non-clinical processes to clinical applications. Members of IT and the preclinical team worked together with consultants from Proscia to validate the technology for GLP usage. After just a few weeks, the company completed its validation of Concentriq, and additional pathology groups began using the solution.



Processing High-Quality Data at Scale Leads to New Insights

With data proliferating throughout every stage of the R&D value chain, company leaders recognized the value of its large proprietary datasets – and the need for technology to harness these assets. The team chose Concentriq because it brings together data, images, and metadata from across the enterprise as well as from external partners.

Now pathologists can use the platform's AI tools to interrogate the data, answer questions, and identify patterns – at scale and 100 times faster than ever before. Scientists can answer new types of queries, streamline workflows, collaborate more easily, and slash R&D timelines.

IT leaders used Concentriq's modern API to integrate with existing information systems. Now data scientists are building new technologies, such as image-based biomarkers. As a result of this innovation, the company can generate novel insights and support faster R&D processes that bring drugs to market sooner.

The platform also helps the company adhere to rigorous data standards – helping ensure the highest data quality and integrity – while still letting pathology teams be nimble and flexible. For example, an automatic quality control feature flags common tissue and image artifacts as each slide is scanned.

The company likes Concentriq's study workflows, which enforce the standardized collection of data from pathologists and other subject matter experts. The workflows also provide data templates and field libraries that make it easy to use controlled vocabularies across the organization.

These tools help teams adhere to best practices, such as FAIR principles. And groups operating in regulated R&D settings, such as those performing preclinical toxpath studies, can use Concentriq's tool set with audit logs, secure audit trail, controlled system and repository access, and other features that help ensure GLP compliance.

The platform also includes a sophisticated system for administering data governance policies. Now the company can employ roles and permissions plus flexible user groups to ensure that the right people have access to the right data.

CONCENTRIQ LS

Concentriq LS: Where Data Lives and Pathology Teams Work

The unified Concentriq platform is foundational for the company's pathology professionals. By deploying the Proscia solution, the organization realized the following key benefits:

- Enterprise pathology system that can be easily enhanced and expanded to meet the company's dynamic needs, from discovery through clinical trials
- Rapid solution deployment using Web-based software
- Simplified image management, with one platform that serves as a system of record for images and associated metadata
- Enhanced efficiency, with image management and study workflow capabilities that allow pathologists to do their work in a single platform
- Greater insight and faster time to innovation, using powerful image analysis capabilities and support for collaborative peer review activities
- Support for the end-to-end toxpath life cycle, with Proscia-provided professional services that facilitate GLP validation for preclinical applications
- IT investment protection, thanks to integration that allows Concentriq to exchange data with legacy pathology and workflow management tools
- Ability to use emerging technologies without starting from scratch

Transform Pathology from Drug Discovery to Market

The biopharma company is committed to using Concentriq as its enterprise-wide pathology platform. Planning for the future, the organization has already expanded its Concentriq footprint, with implementation being completed at additional sites.

Team leaders use the platform to identify synergies across workflows and create best practices for the organization's pathology groups. The company is in the process of incorporating powerful new Concentriq features to support its enterprise pathology vision, such as automatic quality control that supplements the teams' quality data.

Executives also hope to use Concentriq's integration capabilities to share data. They foresee a time when pathologists can click on the histology data in the company's LIMS solution and view that data in Concentriq.

Encouraging their CROs to deploy Concentriq is another priority. This shift would help ensure that all organizations use the same nomenclature, capture data consistently, and minimize missing or incomplete image data.

PROSCIA®

To find out how Concentriq can help you take the next step in your digital pathology journey, visit **proscia.com** today.

1700 Market Street, Suite 2450 | Philadelphia, PA 19103
1.215.608.5411 | info@proscia.com | proscia.com

Document #1007 V2 10-2024