# Charles River Accelerates Digital Pathology with AI-Powered End-to-End Workflow

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WILMINGTON, Mass.--(BUSINESS WIRE)--May 11, 2026-- Charles River Laboratories International, Inc. (NYSE: CRL) today announced continued momentum in its digital pathology platform, delivering an end-to-end, AI-enabled workflow that significantly accelerates study timelines, and enhances pathologist efficiency, and supports the reduction of animal use in nonclinical research where scientifically appropriate.

By fully integrating digital pathology across the histology and pathology workflow, Charles River is committed to cutting at least one week from standard pathology timelines while maintaining Good Laboratory Practice (GLP) rigor and regulatory readiness. These efficiency gains are driven by the combination of a fully integrated histology laboratory information management system (LIMS), AI-powered slide quality control (QC), and validated digital primary pathology reviews.

“Digital pathology isn’t just about digitizing slides; it is about reengineering the entire workflow,” said Danielle Brown, Digital Products Leader, Charles River. “By applying AI at critical bottlenecks and grounding our models in Charles River’s unmatched pathology expertise and image libraries, we are delivering faster, more scalable, and more insightful pathology for our clients.”

**Eliminating Bottlenecks Across the Histopathology Workflow**
Charles River’s digital pathology workflow addresses one of the most time- and labor-intensive steps in histopathology: manual slide quality control. Traditionally, highly-trained technicians had to individually review every slide, creating delays before slides ever reached a pathologist.

Through an AI-powered QC platform, developed in partnership with Deciphex, Charles River is systematically eliminating this bottleneck through a phased approach:

- Scanning QC (already in production), automatically detecting out-of-focus images, striping, and other scanning artifacts
- Histology artifact QC, identifying tears, folds, bubbles, chatter, and related artifacts, targeted for release in Q3 2026
- Organ sub-compartment completeness QC, a first-of-its-kind capability confirming the presence of required organ substructures, targeted for Q1 2027

Once fully deployed, this automated QC capability will remove an entire manual step from the histology process, shortening turnaround times while allowing skilled technical staff to focus on higher value activities.

Charles River is also deploying a fully integrated end-to-end histology tracking and management system, Prima, which will create a completely seamless, paperless histology workflow to enhance quality and maximize efficiency.

**Validated Digital Reviews and AI-Driven Decision Support**
In parallel, Charles River has implemented GLP-validated digital primary pathology reviews, eliminating the need to physically ship glass slides and reducing pathology read times by an average of 20 percent. Digital reviews also enable broader collaboration across Charles River’s global pathology network and create the foundation for advanced analytics.

Building on this foundation, Charles River is deploying AI-powered decision support and anomaly detection, with the potential to further improve pathologist efficiency by more than 30 percent. Plans for GLP validation of these AI tools are being developed in alignment with FDA guidance and the EU AI Act, ensuring regulatory robustness alongside innovation.

**A Differentiated Platform Built on Unmatched Data and Expertise**
Charles River’s digital pathology capabilities are uniquely differentiated by the scale, diversity, and quality of the data and expertise behind them:

- AI models trained on Charles River’s extensive global pathology image library, representing a uniquely diverse dataset across species, organs, and study types
- The industry’s largest global network of pathologists (more than 150 experts) leveraged for image annotation, data curation, expert review, and rigorous model performance testing
- Tools trained on slides prepared in laboratories around the world and scanned on multiple platforms, ensuring robustness across real-world lab and scanner variability

This depth of data and human expertise enables high-performing AI models with the sensitivity and specificity required for regulated, GLP environments, without creating additional downstream workload for histology labs or pathologists.

**Advancing the 3Rs Through Digital Innovation**
Digital pathology also enables the use of Virtual Control Groups (VCGs), leveraging historical digital slide data to reduce the number of control animals required for studies when scientifically appropriate. By expanding the use of high-quality digital slides, Charles River is helping clients advance the 3Rs (replacement, reduction, and refinement of animal use) while maintaining scientific rigor.

“Our digital pathology investments reflect the convergence of science, technology, and responsibility,” said Dr. Namandjé N. Bumpus, Chief Science and Innovation Officer, Charles River. “They allow us to deliver faster insights for our clients while actively supporting animal welfare and the future of more predictive research.”

Charles River remains committed to advancing the validation and acceptance of NAMs. Together with clients, regulators, and the industry, NAMs

provide a foundation for a future where more patients gain access to life-saving treatments. The Digital Pathology program is guided by the Alternative Methods Advancement Project™ (AMAP), an initiative focused on reducing the use of animals in research where scientifically appropriate.

**About the Alternative Methods Advancement Project (AMAP)**
The Alternative Methods Advancement Project (AMAP) is a Charles River-led initiative dedicated to developing New Approach Methodologies (NAMs) and exploring innovative scientific and technological solutions aimed at reducing reliance on traditional animal testing. As we enter the next frontier of drug development, AMAP™ enables strategic, purpose-driven investment to shape a future in which more patients can access the treatments and medicines they need safely, swiftly, and successfully. AMAP is supported by our global, cross-functional Scientific Advisory Board led by Dr. Namandjé N. Bumpus.

**About Charles River**
Charles River provides essential products and services to help pharmaceutical and biotechnology companies, government agencies and leading academic institutions around the globe accelerate their research and drug development efforts. Our dedicated employees are focused on providing clients with exactly what they need to improve and expedite the discovery, early-stage development and safe manufacture of new therapies for the patients who need them. To learn more about our unique portfolio and breadth of services, visit www.criver.com.

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