Digital pathology has the potential to enormously change how pathology slide specimens are reviewed, shared and managed. Together, Hitachi Data Systems and Pixcelldata support digital pathology with a turnkey solution for the unique workflows and collaboration challenges of pathology.

Ensure Long-Term Access, Use and Preservation of Pathology and Other Medical Data

The digitization of medical images is an efficiency strategy that has proven itself in medical imaging departments around the globe. As a result, hospitals and their pathology departments are seeking digital solutions that support a productive and efficient pathology workflow and ensure a more holistic and future-proof approach. Requirements include:

- Improve access to pathology images.
- Rapidly share images among facilities.
- Digitally enable access to subspecialty consultation.
- Support telepathology or remote diagnosis.
- Control the inevitable explosive growth in data and curb its related costs.
- Simplify educational processes by eliminating the need for recuts and reprocessing of samples.

Figure 1. The Hitachi Content Platform and Pixcelldata Collibio Solution for Digital Pathology
Break Down the Barriers for Digital Pathology Adoption

At the foundation of this solution is an intelligent multipurpose archive that enables healthcare organizations to store, protect, preserve and retrieve clinical and nonclinical data in a single storage platform. As a virtualized distributed object store, Hitachi Content Platform has advanced storage and data management capabilities that help healthcare organizations address the ever-growing volume of unstructured data. Pixcelldata Collibio is an innovative Web application for managing digital pathology images and associated data. Together, these products create a solution that enables pathologists to immediately access, review and collaborate on images from proprietary scanner systems supporting the adoption of digital pathology (see Figure 1).

When delivered on Hitachi Content Platform, the Collibio application supports both departmental workflows and collaborative processes with other departments, clinics and pathologists.

Broad Application Support

Hitachi Content Platform abstracts away the detail of the underlying storage system and presents a common distributed object view to both the user and the application. With support for CIFS, NFS, HTTP, REST and more, Hitachi Content Platform leverages the benefits of object storage. It eliminates the siloed approach to storing data, which is common with proprietary slide scanning systems used in pathology.

The Hitachi Content Platform and Collibio Solution

This solution includes 3 basic components:

Collibio: Image Transfer
The 1st step on the path to a digital pathology workflow is the digitization of glass slides. Many governments want to consolidate efforts around digital pathology by centralizing the wet lab work while distributing the diagnostic aspects. However, a large pathology department could have multiple scanners from different vendors. This multivendor approach can lead to connectivity and interoperability challenges that reduce overall data access. Collibio image transfer effortlessly connects to existing proprietary digital pathology image archives, allowing you to bring multiple slide collections into one platform. It does not matter what slide scanner was used to create the images or where the scanner resides. In a few seconds, your problems will be solved in one flexible, scalable solution.

Collibio: Viewer
An innovative Web-based application, the Collibio viewer manages digital pathology images and associated data. It is designed to allow pathologists to instantly access existing digital images and link to authorized images. Further, access to images can be shared across departments and even facilities, encouraging collaboration between pathologists, researchers and students.

Hitachi Data Systems and Pixcelldata Solution Benefits

For the Pathologist
- Employ a turnkey solution, built for pathology workflows and collaborations.
- Review proprietary digital pathology images rapidly.
- Assign cases to pathologists locally or securely to off-site specialists.
- Facilitate real-time telepathology between experts.

For the IT Department
- Massive scalability and multitenant capabilities can save an average of US$400,000 in capital expenditures for higher tiered storage upgrades, expansion of capacity, or net-new platforms.
- Integrate digital pathology images from multi-vendor scanner systems.
- Reduce or remove the need for tape-based backups.

For the Pathology Student
- Enable digital sharing of slides for educational purposes, reducing costs and complexities of recuts.
- Promote self-guided and group learning with integrated e-learning platform.