

CUSTOMER SUCCESS STORY

Integrating AI-Based
and Digital Pathology Solutions
at **Acibadem Healthcare Group**

CUSTOMER BACKGROUND

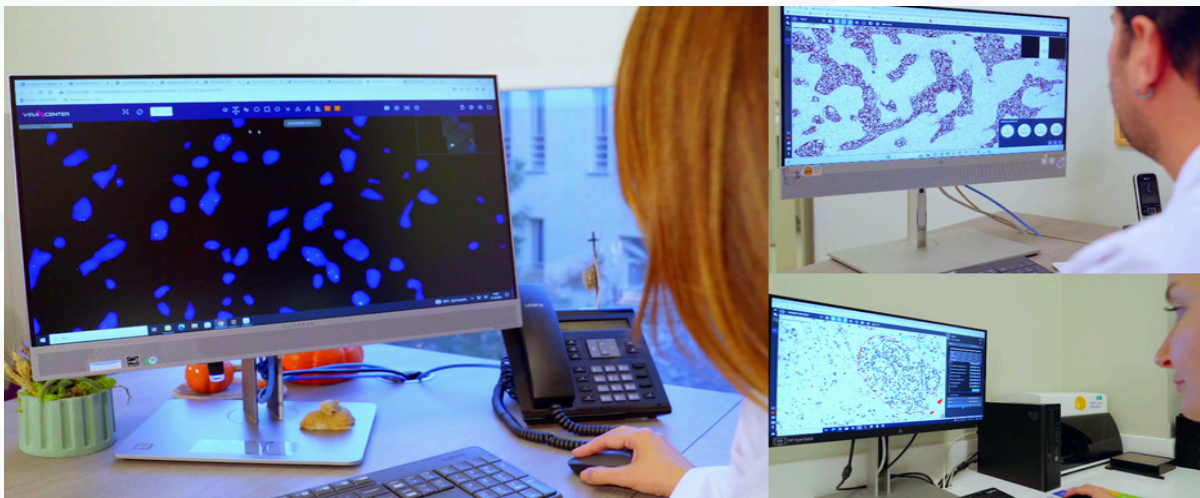
Established in 1991, Acibadem Healthcare Group has grown into the world's second-largest healthcare chain through its partnership with IHH Healthcare Berhad. With 21 hospitals and 16 outpatient clinics, Acibadem is renowned for its advanced technology and adherence to international quality standards, drawing patients worldwide seeking high-quality medical care.

CUSTOMER CHALLENGES

The Central Pathology Laboratory at Acibadem is integral to its operations, comprising specialized subdivisions such as macroscopy, histology, cytology, and immunohistochemistry. To meet the increasing demand for advanced diagnostics and adhere to the latest scientific standards, Acibadem needed to upgrade its pathology infrastructure with modern digital solutions to ensure efficient sample management and accurate, timely diagnostics.

VIRASOFT'S SOLUTIONS

Virasoft developed various quantitative analysis module for specific biomarkers and cancer types that should be evaluate numerically. There are various AI-based algorithms which are nuclear analysis (Ki67, ER, PR, PHH3), membrane analysis (HER2, PD-L1), FISH analysis (amplification, deletion, break apart, fusion), tissue segmentation, Mitosis Detection, Tubule Detection, Nuclear Pleomorphism, Breast Lymph Node Metastasis and Prostate Tumor Detection.



Acibadem collaborated with Virasoft to upgrade its pathology services through the integration of advanced digital pathology technologies. VIRACENTER is utilized as an integrated digital pathology system including, image management system, quantitative analysis system and consultation system. The key components of the solution included:



- **Slide Scanning:** Digitizing pathology slides to create high-resolution whole slide images for detailed analysis.
- **Whole Slide Image Collection:** Gathering comprehensive digital images for in-depth evaluation and record-keeping.
- **Image Extraction and Model Training:** Extracting relevant data from images and training models to support quantitative analysis.

- **Image Management System:** Organizing and managing digital images efficiently within a server-based centralized system.
- **Quantitative Analysis:** Utilizing advanced algorithms for detailed quantitative analysis
- **Consultation Services:** Providing consultation support



RESULTS

- **Enhanced Diagnostic Efficiency:** Digital slide scanning and whole slide image collection streamlined diagnostic workflows, reducing turnaround times.
- **Improved Accuracy:** Advanced image management and quantitative analysis tools increased diagnostic precision and consistency.
- **Numerous Academic Studies:** Conducted in collaboration with Acibadem Hospital pathologists, have utilized AI-based Algorithms.
- **Remote Consultation:** The mobile telepathology system allowed for remote consultations and expanded the laboratory's ability.
- **Global Compliance:** The upgraded system ensured adherence to the latest scientific and international standards, reinforcing Acibadem's reputation for excellence.
- **Online Training Platform PATHOCLASS** is used at lectures workshops and congress.

This successful collaboration between Acibadem Healthcare Group and Virasoft demonstrates the transformative impact of digital pathology solutions. By incorporating Virasoft's advanced technologies, Acibadem has enhanced its diagnostic capabilities, supported global expansion, and maintained its commitment to delivering world-class healthcare services.

Virasoft's Impact on Cancer Diagnosis and Research

Founded in 2015, Virasoft specializes in services that accelerate and digitalize cancer diagnosis. Virasoft is committed to developing AI-based decision support algorithms, workflow solutions, telepathology platforms, and pathology education systems for evolving digital pathology needs.



400,000
digital cases



20,000
Consultations with
digital pathology



2,000
Digital frozen
sections



30,000
Analyses with
algorithms