



AIRA
M A T R I X

Artificial Intelligence
Transformed Analyses

Clinical Solutions

About Us

We deliver cutting-edge artificial intelligence solutions for healthcare and life sciences applications. Our innovative products and services drive efficiency, enhance diagnostic accuracy, and provide data-driven insights from digitally scanned images.

Drug Discovery & Preclinical Research

Our comprehensive AI-driven suite for drug discovery and development, streamlines pre-analytical quality control, facilitates tissue triage, and optimizes safety and efficacy assessments, accelerating breakthrough discoveries.

Healthcare Solutions

Our healthcare portfolio offers diagnostic, prognostic, and predictive tools that facilitate risk stratification and enable personalized therapy planning, thus improving treatment outcomes.

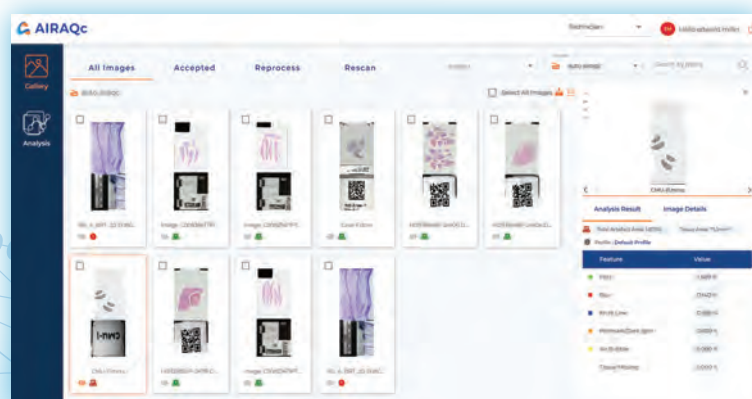
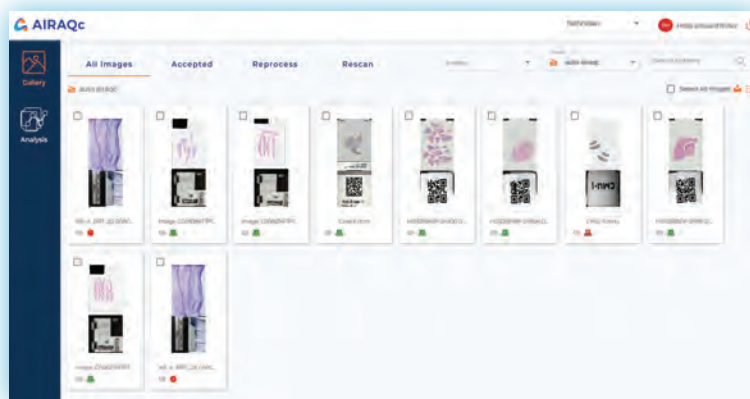
Write to solutions@airamatrix.com for more

AIRAQc

Identification and Quantification of Artifacts in WSIs

Automate preanalytical quality checks to accept or flag images for reprocessing or rescanning based on set thresholds

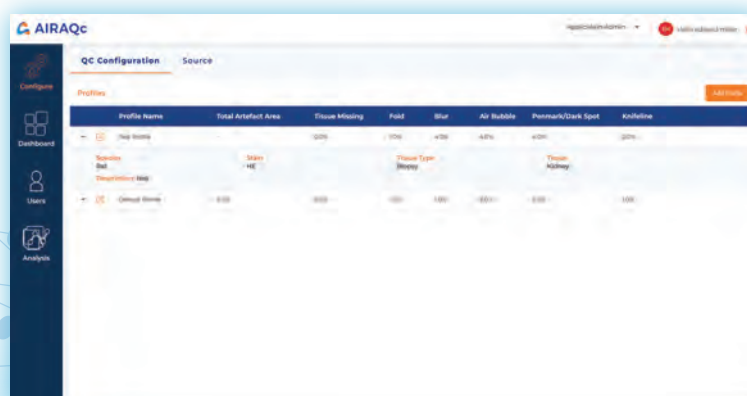
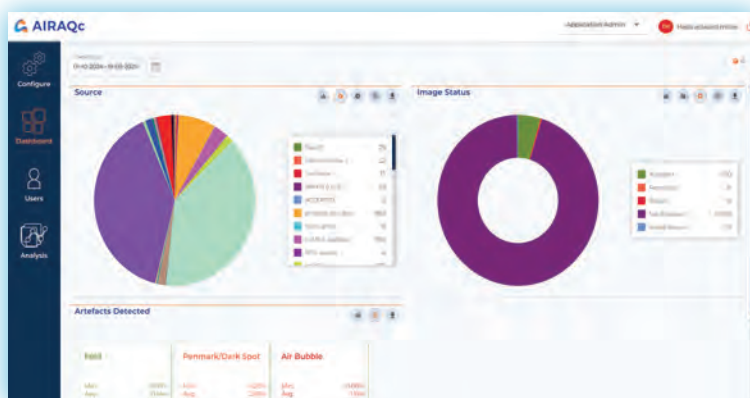
- ✓ **High Performance**
Achieve 95% sensitivity and 96% specificity, with a throughput of 10 WSIs per minute (1GB each) for fast and accurate analysis
- ✓ **Comprehensive Error Detection**
Analyze WSIs to detect and quantify processing artifacts (Tissue Fold, Pen Marks/Dark Spots, Air Bubbles, Coverslip Line, Knife Line) and scanning artifacts (Out of Focus, No Tissue, Missing Tissue)
- ✓ **Customizable Thresholds**
Set predefined thresholds based on the extent and type of errors to automatically mark images under accept, reprocess, or rescan
- ✓ **Detailed Analytics**
Generate detailed analytics about artifact quantification for insight into the overall WSI quality across your digitized pathology lab
- ✓ **Seamless Integration**
Easily integrate with existing digital pathology workflows to streamline quality control without disrupting routine operations



AIRAQc

Specifications

Scanner Agnostic	Compatible with multiple image formats and scanners
Analysis Mode	Auto, Manual
Operation Mode	Rapid, Comprehensive
Stains	H&E, IHC
Deployment	Cloud, On-Premise
Species	All
Export Results	CSV, Excel

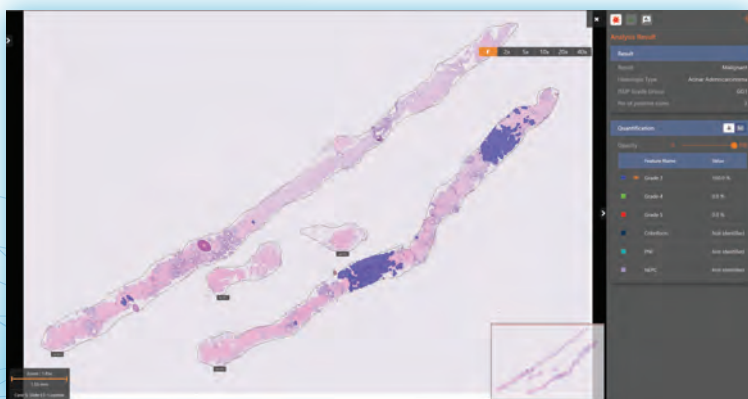
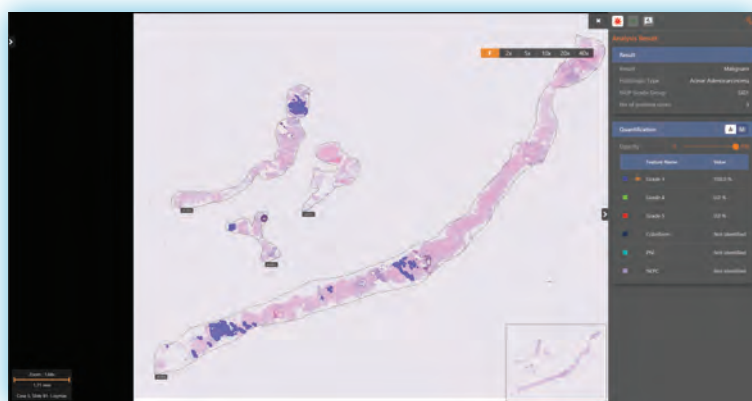


AIRAProstate

Platform for Prostate Image Analysis

Automate Gleason grading, ISUP grouping, and prognostic marker quantification in CNB and RP for accurate risk stratification and better treatment decisions

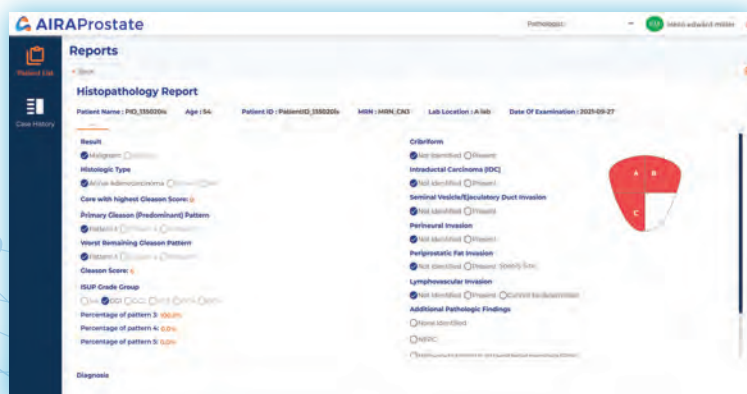
- ✓ **AI-Powered Insights**
Leverage deep learning models trained on 10,000+ patient datasets for high-accuracy analysis, achieving upto 0.92 Quadratic Weighted Kappa
- ✓ **MRN-Based Slide Review**
Review all slides for an MRN in one place for a comprehensive case assessment, enabling quicker, more informed decision-making
- ✓ **Comprehensive Case History View**
Get a holistic view of a patient's case by accessing the history of all associated MRNs for an in-depth diagnostic overview when making critical treatment decisions
- ✓ **Advanced Viewer Capabilities**
Utilize features including hands-free navigation, annotation tools, and synced image comparison for ease of viewing and analysis
- ✓ **Report Generation**
Generate reports with customizable formats for manual or automated image analysis



AIRAProstate

Specifications

Scanner Agnostic	Compatible with multiple image formats and scanners
Analysis Mode	Auto, Manual
Specimen	Core Needle Biopsy, Radical Prostatectomy
Stain	H&E
Findings	ISUP Grade Group, Primary and Secondary Gleason Patterns, Cribriform, Peri-Neural Invasion, and Neuro-endocrine PCa
Deployment	Cloud, On-Premise
Export Results	CSV, PDF

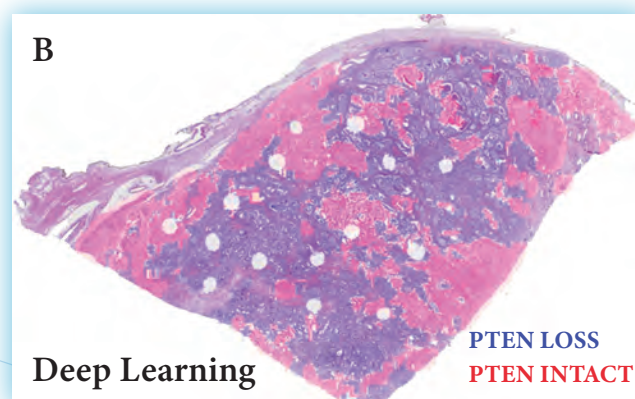
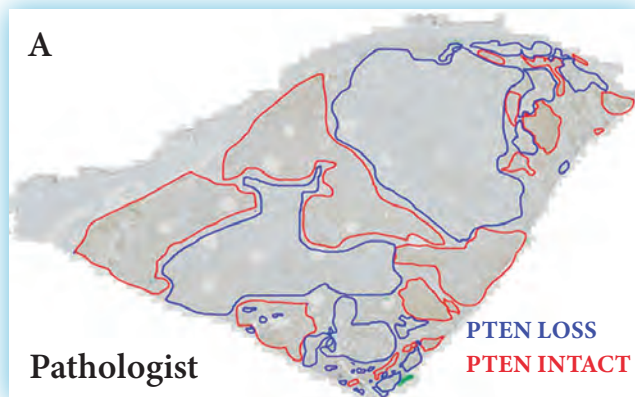


AIRAPredict

Explainable Solutions to Predict Molecular Marker Expression

Predict molecular subtypes directly from routine H&E-stained tissue images, optimizing tissue requirements, costs, and turnaround time

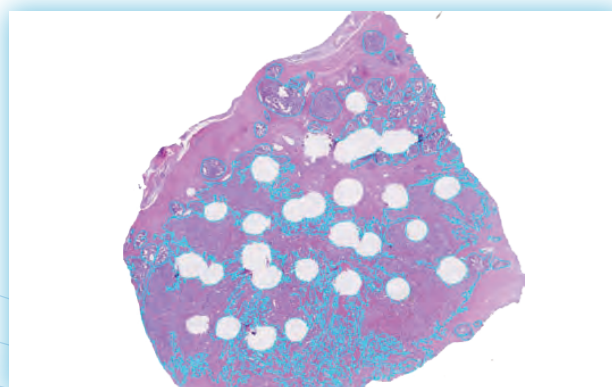
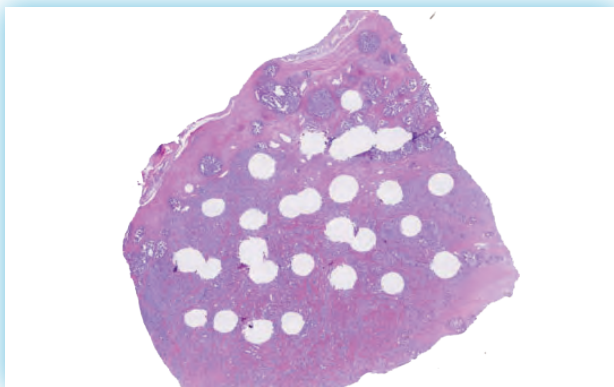
- ✓ **High Confidence Predictions**
Delivers up to 91% AUC for accurate and reliable risk assessment
- ✓ **Predict Molecular Alterations**
Accurately predict PTEN Deletion, ERG Fusion, and BRCA-2 Expression from H&E-stained prostate biopsy and radical prostatectomy images
- ✓ **Ground Truth Data**
Trained on ground truth from IHC and transcriptomic assay outcomes, ensuring reliability
- ✓ **Patient Screening**
Screen patients for relevant genomic alterations without expensive genomic sequencing
- ✓ **Cost and Time Optimization**
Efficient triaging helps reduce costs and significantly improve turnaround time



AIRAPredict

Specifications

Scanner Agnostic	Compatible with multiple image formats and scanners
Analysis Mode	Auto, Manual
Specimen	Core Needle Biopsy, Radical Prostatectomy
Stains	H&E
Findings	PTEN Deletion, ERG Fusion, BRCA-2 Expression
Deployment	Cloud, On-Premise
Export Results	CSV, PDF



AIRAStrat

Risk Stratification in Prostate Cancer

Multimodality-trained AI solutions for risk stratification at biopsy and post-RP. Endpoint prediction of tumor upgrades, BCR, metastasis, and metastasis-free survival



Advanced Risk Stratification

Trained on multimodal data with clinical outcomes as ground truth, achieving up to 0.91 AUC and outperforming conventional methods, including genomic classifiers



Smarter Patient Classification

Enhances active surveillance decisions, reducing unnecessary treatments



Optimized Post-Surgical Care

Guides therapy selection to minimize treatment-related complications



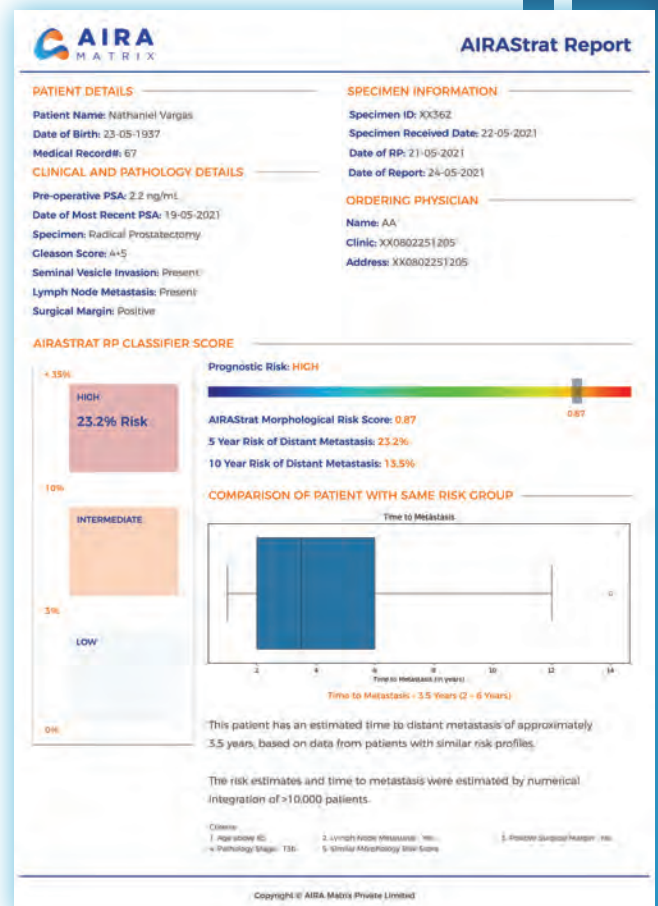
Metastatic Risk Heatmap

Overlay on images highlights metastatic risk levels, integrating clinical data with histopathology for better risk stratification and informed decision-making



Metastasis Prediction

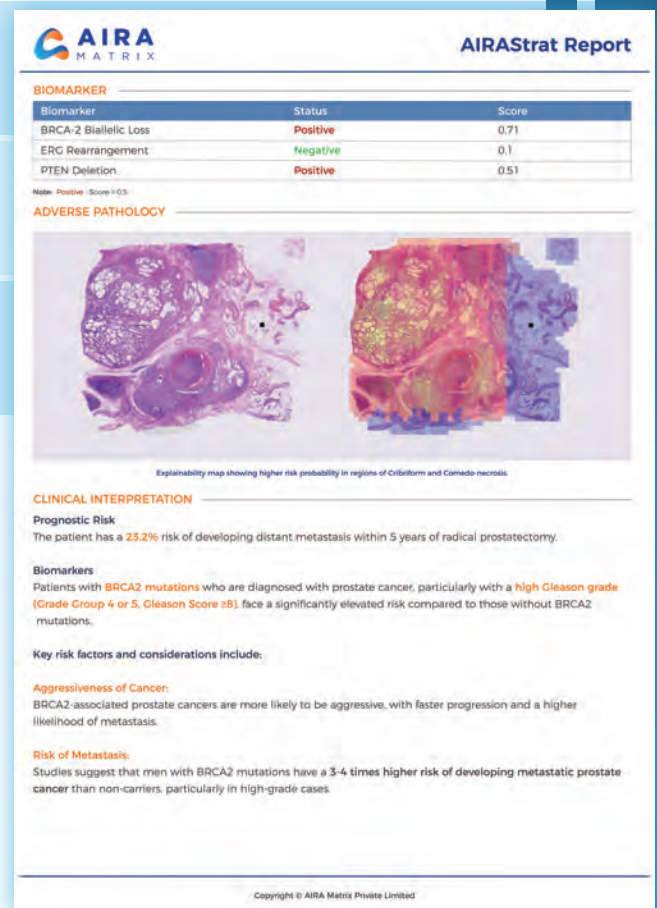
Offers metastasis-free survival insights by integrating clinical and pathological data for personalized prognosis and long-term cancer management



AIRAstrat

Specifications

Scanner Agnostic	Compatible with multiple image formats and scanners
Analysis Mode	Auto, Manual
Specimen	Core Needle Biopsy, Radical Prostatectomy
Stains	H&E
Deployment	Cloud, On-Premise
Export Results	CSV, PDF
Evaluation Metric	AUC, F1 Score

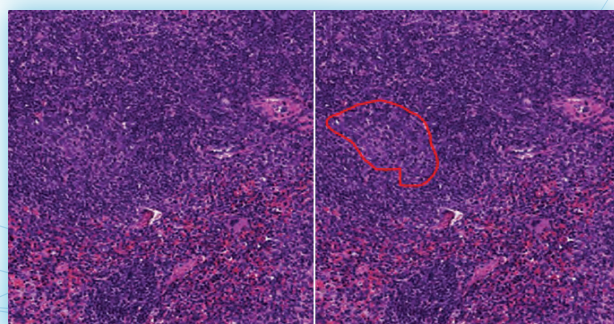
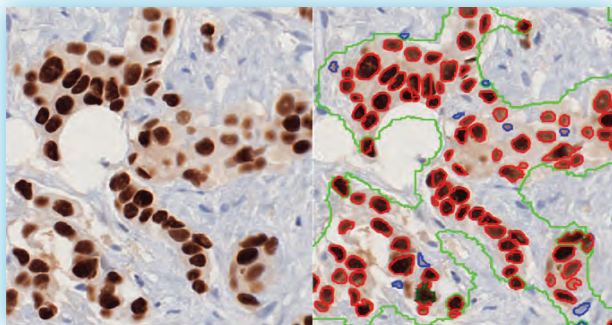
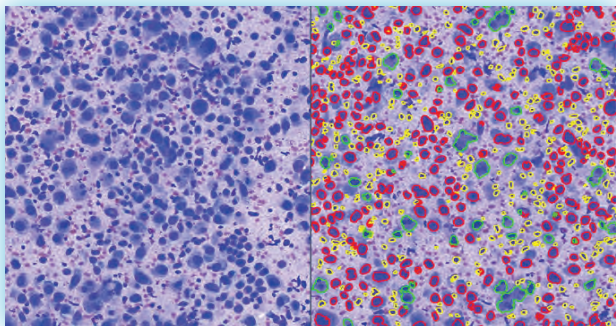


Custom AI Development

Custom AI Models Built for Your Needs

Get tailored, efficient solutions with our custom AI development services for short-term histopathology studies

- ✓ **Accelerated Delivery**
40% faster turnaround with lower development costs using ready-to-use AI models
- ✓ **100+ Pre-Built Models**
Leverage a vast library of pre-trained models for rapid customization
- ✓ **Smart Data Creation**
Generate training data rapidly with foundation model-based tools
- ✓ **Stain Adaptation**
Easily fine-tune the model for new stain variations
- ✓ **Automated Training**
Active learning to accelerate model training



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