



# Implementing 100% QC in a Cervical Cytology Workflow Using WSI and AI Provided by the Techcyte Sureview™ System



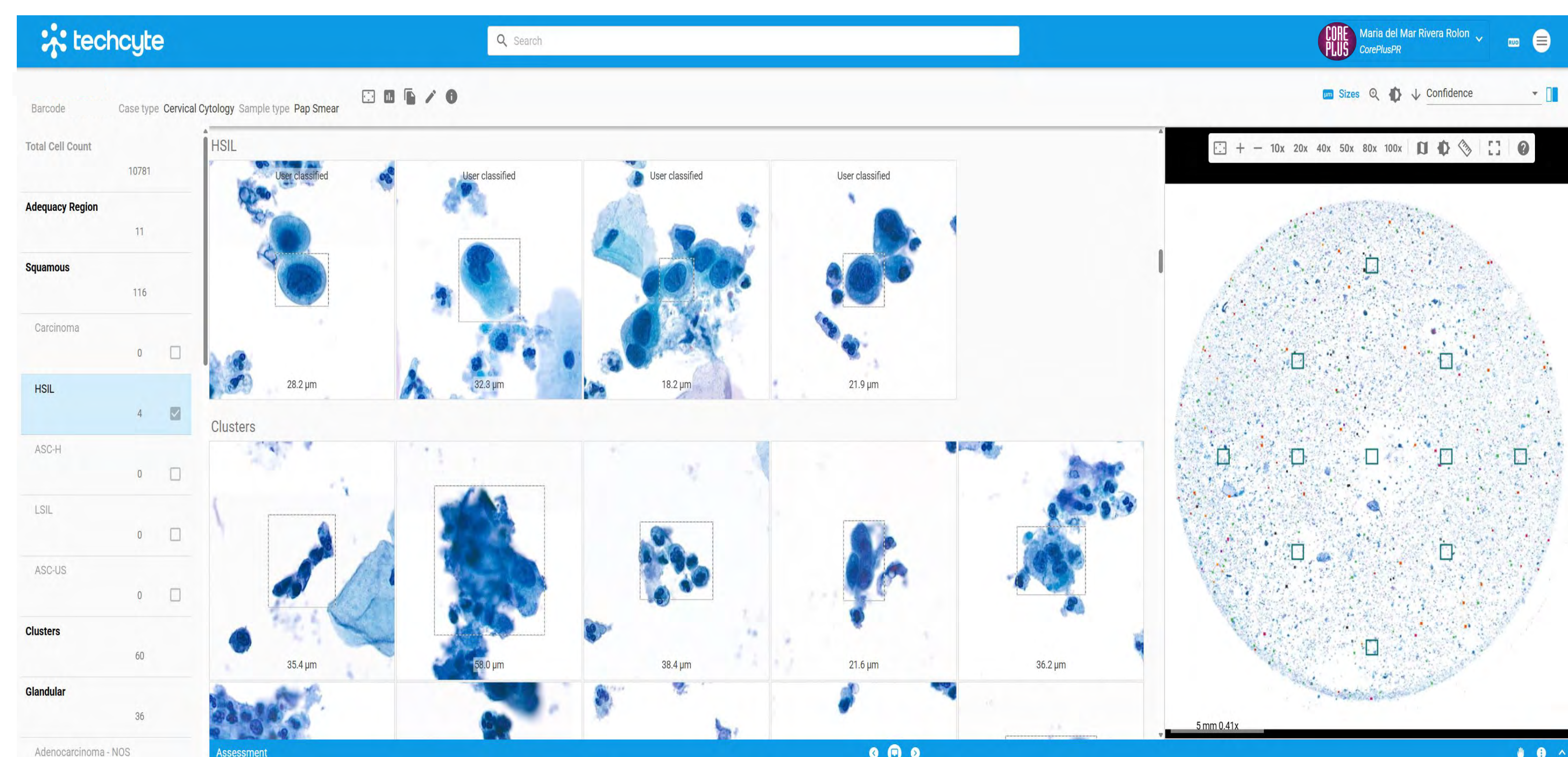
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## BACKGROUND

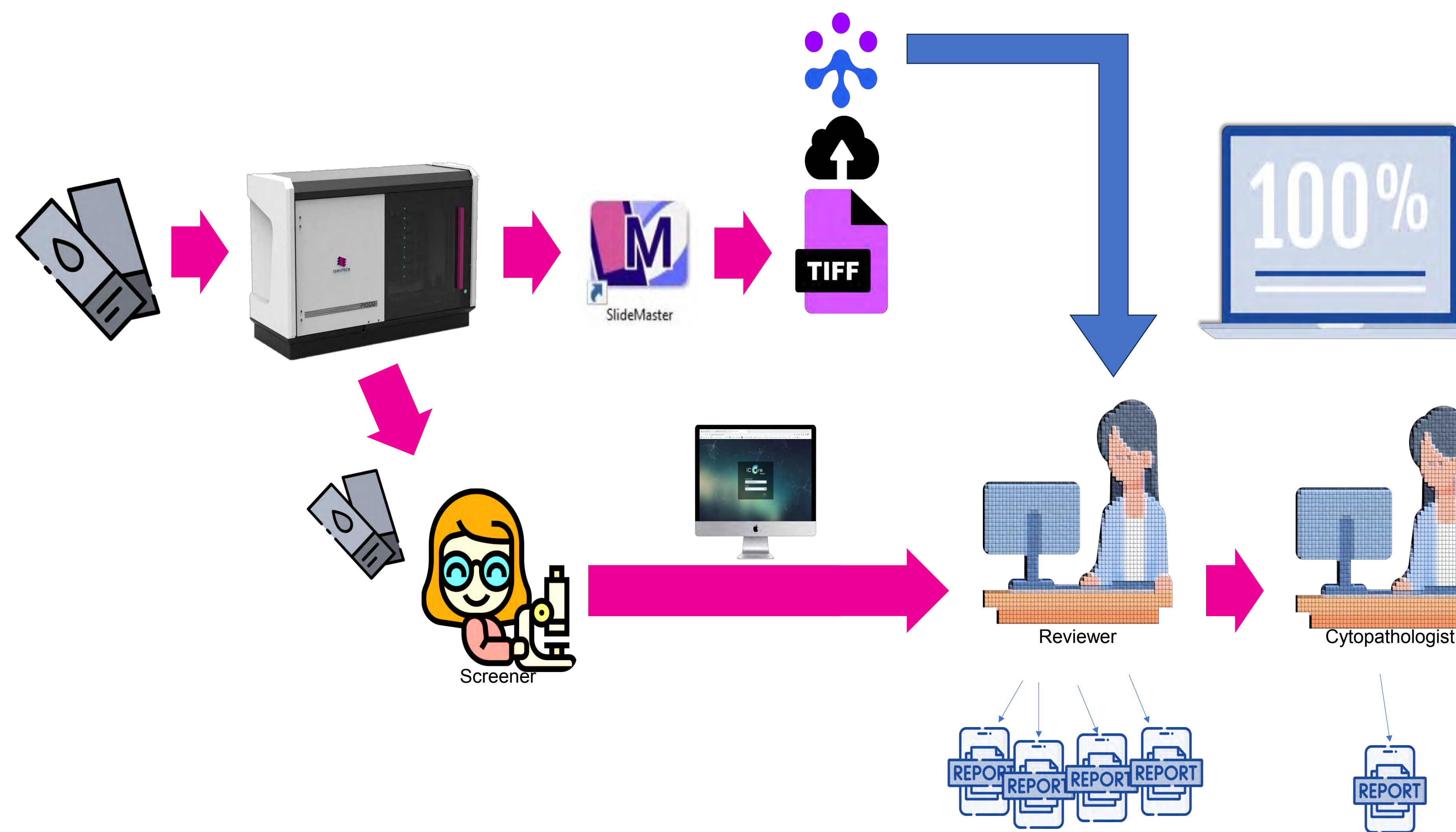
- Recent advancements in digital pathology have begun to extend into the field of cytopathology.
- Laboratories screening cervical cytology specimens face a choice between limited imaging options currently available on the market and the traditional manual microscope method.
- The Techcyte SureView™ Cervical Cytology System is an artificial intelligence (AI) algorithm tool that helps cytotechnologists and pathologists read Hologic ThinPrep® or BD SurePath™ slides more efficiently by presenting the most diagnostically relevant cells and/or organisms. It works with the 3DHistech P1000 and other selected scanners.
- This system underwent validation at CorePlus, a pathology laboratory in Puerto Rico. Its performance prompted the lab to adopt it as a 100% Quality Control (QC) tool in their workflow.

### Techcyte SureView™ Cervical Cytology System



## DESIGN

### Current Workflow in Cytopathology



- Retrospective validation study
- 1,442 whole slide images (WSI)
- 1,273 were ThinPrep and 169 were SurePath cervical cytology slides
- Slides were scanned with the 3DHistech Panoramic 1000 scanner using both traditional and water immersion scanning profiles.
- WSIs were analyzed by the Techcyte SureView™ Cervical Cytology System.
- A cytopathologist reviewed the objects of interest identified by the AI algorithm to make a final determination, which was then compared to the traditional light microscopy results documented in the patient's records.

## RESULTS

- After adjudication of ground truth, the WSIs analyzed using the Techcyte SureView™ method with the water immersion scanning profile exhibited superior performance on squamous and glandular abnormalities compared to both the traditional scanning profile and the light microscopy method.

METRIC	WATER IMMERSION SCAN WITH ADJUDICATION [95% CI]
Accuracy	97% [0.96-0.98]
Sensitivity	82% [0.77-0.87]
Specificity	99% [0.98-0.99]
PPV	86% [0.80-0.90]
NPV	98% [0.98-0.99]
Kappa Agreement Analysis	0.82 [0.76-0.87]

**1:52**  
minutes

**4:48**  
minutes

## CONCLUSIONS

- The study illustrates that digital cytopathology, particularly through the Techcyte SureView™ Cervical Cytology System, has the potential to enhance laboratory workflow and performance.
- The successful validation of the Techcyte SureView™ system led CorePlus to integrate the AI algorithm into their workflow as a 100% QC review tool.
- The system has been operational for almost 1 year, resulting in enhanced accuracy and workflow efficiency, and benefiting both laboratory professionals and patients.