

# Case History 7

## Thin Prep Imaging System



### Market

Cytology

### Client Type

Early commercial stage medical device OEM (Cytoc)

### Unmet Need

Serve as the “optics department” for primary contractor Battelle Product Development to develop diffraction-limited optics for Cytoc’s Imager and Review Scope.

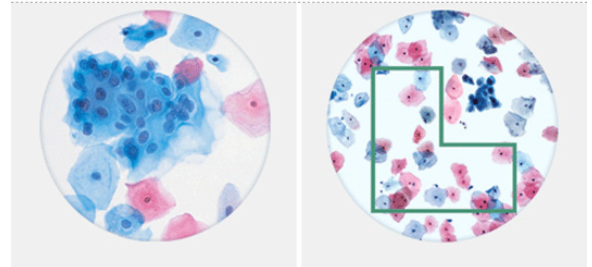
### Approach

Minimize development and production costs and lead times by designing optical systems with a mixture of stock and custom components; integrate the optical systems into the complete instruments.

### Product Features

The Imager is a high throughput instrument for the unattended reading of Thin Prep slides. It features unique LED-based illumination with stringent requirements for spectrum, stability, and uniformity; and an imaging path for a high-resolution CCD camera. The Review Scope is a semi-automated instrument for cytotechnologist review of processed slides. It features computer- or manually-controlled 3-axis stage, high-brightness/high-uniformity illumination, and a unique “mark indicator” that directs user’s gaze to cells of interest (seen in slide image at right, above).

ThinPrep Pap Test liquid-based slide: improvement over the conventional pap smear



### Services Provided by OTI

- Optical design & engineering
- Opto-mechanical engineering, including part design & vendor sourcing
- Development of assembly, alignment, and test methods
- Design, fabrication, and calibration of test fixtures
- Complete FDA-compliant documentation set, including all drawings & procedures
- Prototyping
- Verification & validation testing
- Production (ongoing)

### Client Comment

*“I’d worked with OTI on previous projects, so I called them again when we needed optical engineering support on the Cytoc project. As expected, they came through with their usual responsiveness, innovation, pragmatism, and attention to detail.”*

- Jay Woodard, Program Manager

114 PLEASANT ST.  
SOUTHERIDGE, MA 01550  
T 508 765 8100  
F 508 765 8101  
E INFO@OPTIMUM-TECH.COM

WWW.OPTIMUM-TECH.COM

