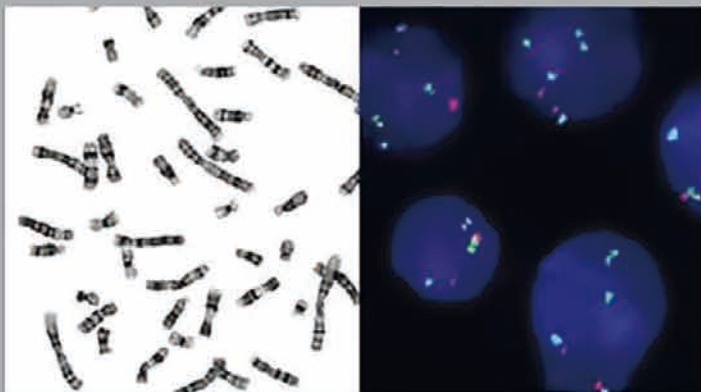




Every  
Diagnosis  
Counts

# CytoPower

Imaging and Analysis for Cytogenetic Samples



POWERED BY  
**GENASIS**

**ASI** APPLIED  
SPECTRAL  
IMAGING

# A Complete Cytogenetics Workflow

**Digitize slides, analyze chromosomes and score probes all-in-one**

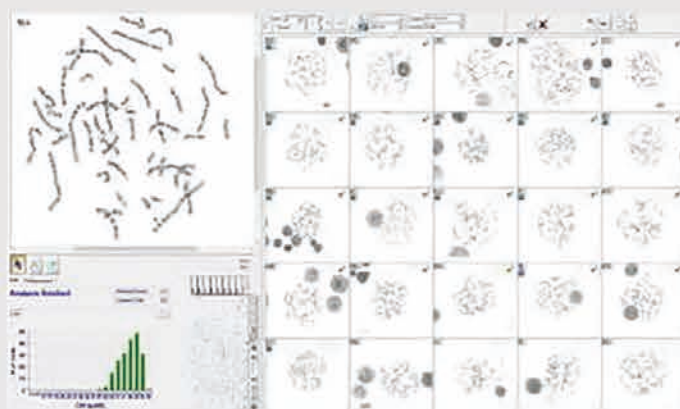
Welcome to your comprehensive Cytogenetics testing solution:

## 1 Scan & Capture

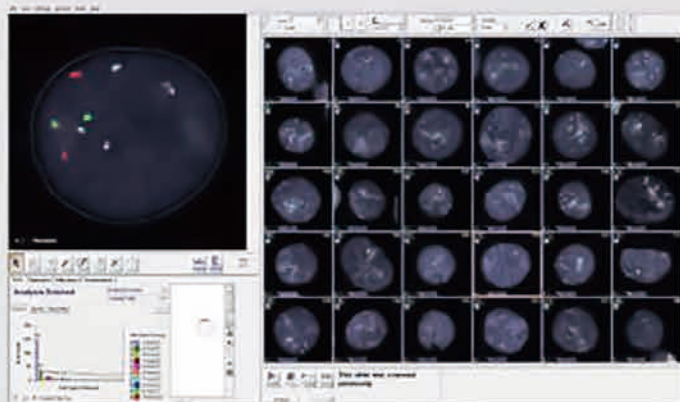


Digitize your slides for onscreen analysis and case management. Capture both metaphase and interphase cells for analysis

## 2 View & Analyze



All in one platform to analyze chromosomes and classify cells



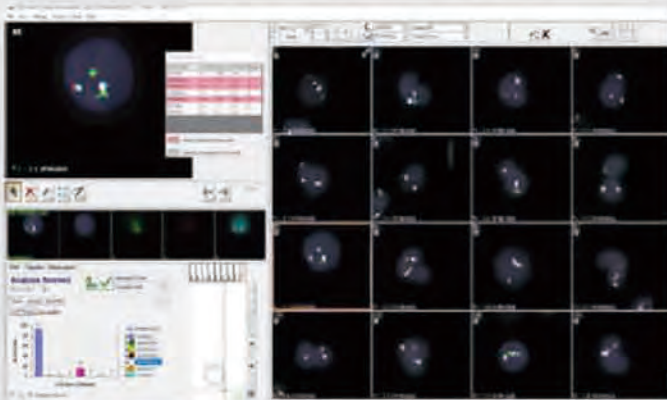


Scan >>> Analyze >>> Review >>> Report >>> Complete!

## Review Results



Click of a button karyotype and real-time statistical results on signals



## Report



Submit comprehensive case details

# Cutting edge scanning, imaging and analysis instrumentation for karyotyping and FISH

All in one system



"CytoPower doubled our lab productivity in bone marrow karyotyping and tripled our productivity in blood sample karyotyping."

Nettie Rietema, University Medical Center Groningen, NL

## Benefits to your lab:

- ✓ **Higher diagnostic confidence** with more cell analysis
- ✓ Automatic metaphase and interphase finder for **better results**
- ✓ **Validated analysis tools** for standardization across users
- ✓ **Data management** for performance metrics
- ✓ And so much **more**



# Digital Karyotyping & FISH Analysis

## Manual and Automated Scanning

An all-in-one imaging & analysis solution for digital karyotyping and FISH diagnostics.

Automated workflows, powerful algorithms and feature-rich software provide optimized lab productivity and greater confidence in patient assessment for cytogenetic labs.

## Fully Automated



## Cytogenetic Clinical Applications to visualize, assess and identify:

- ✓ Chromosomal Abnormalities
- ✓ Structural and Numerical Changes
- ✓ Prenatal Amniotic Fluid
- ✓ Postnatal Blood
- ✓ Bone Marrow Cancer Genetics
- ✓ And much more...

## Hematology Fish Flow:



# Digital Chromosome Analysis You Can Rely On

Efficiency, Precision, Versatility

## State of the Art Image Quality Start & Walkaway Scanning



High resolution SMP camera sensor combined with a high quality 100x immersion oil objective

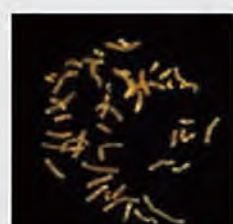
### Broad Staining and Sample Menu



G-Band



Q-Band



R-Band



FISH



Spectral

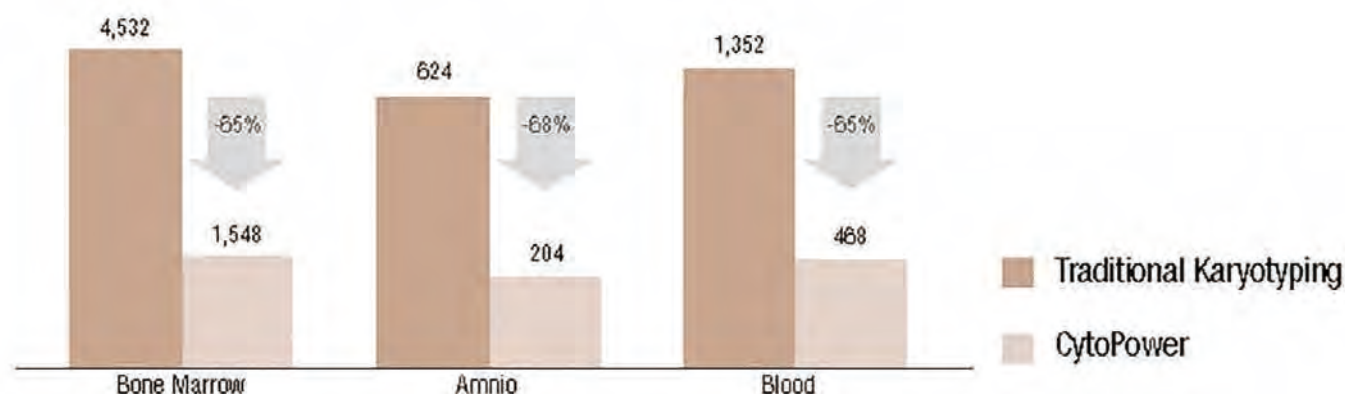


R-Band

✓ Blood ✓ Bone Marrow ✓ Amniotic Fluid ✓ CVS

## Increased Lab Productivity

### 66% Technologist Time Savings (Hours / Month)



Free technologist time to where their expertise is needed most



# Comprehensive Working Platform



## Feature Rich Review & Analysis



### Count

Accurate automatic chromosome counting



### Analyze

Fast and easy chromosome indexing and classification



### Karyotype

High accuracy of automated karyotyping, with auto ISCN, auto bands estimation and auto overlap score

## Easy Separation and Boundary Editing

"Magic Tool" combining 12 operations in a simple mouse click



Overlap



Split



Extend

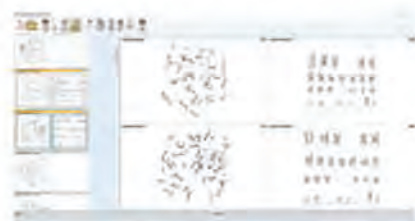


Combine



Saves hundreds of mouse-clicks per karyotype!

## Advanced Onscreen Supervisor or Director Review



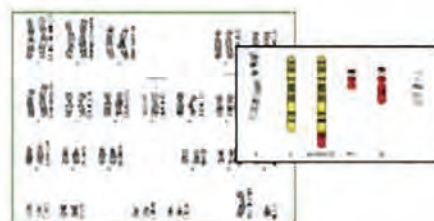
### Image Gallery

Display of all case metaphases and karyotypes



### Chromosome Compare

All captured cells and chromosomes side by side



### Aberrant Ideogram

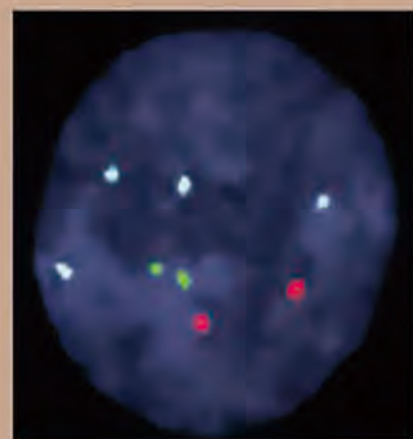
Chromosomes, cells, ideograms and annotations in an image generator

\* FDA cleared for BandView, FISHView, SpotScan for CEP XY, UroVysion, ALK and HER2/neu FISH

# Digital FISH Analysis

Accuracy, Consistency, Ease-of-Use

## Image Quality Driven to the Max!

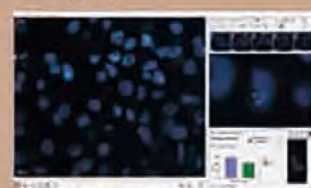


### Wide Application Coverage

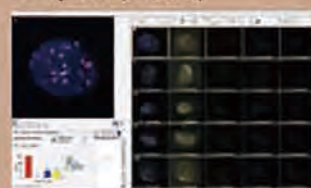
HER2/neu (Breast)



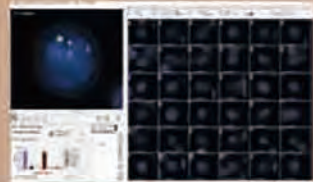
ALK (Lung)



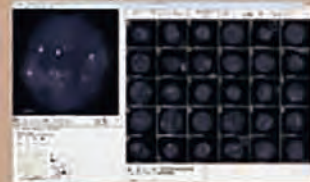
UroVysion (Bladder)



Hematology Fusion



Hematology Enumeration



✓ Any Sample

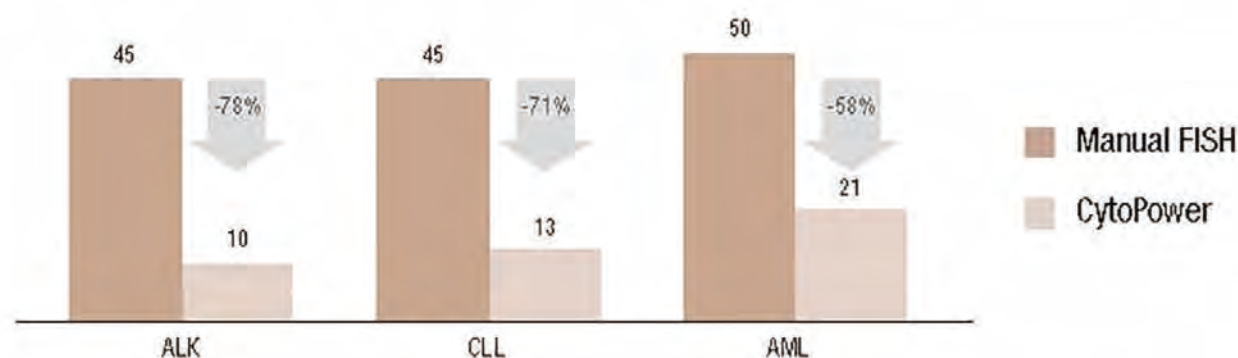
✓ Any Probe

"Digital FISH analysis provides more efficient and accurate results and better patient care in comparison to traditional FISH methods."

Liew M, Rowe L, Clement PW, Miles RR, Salama ME, J Pathol Inform.

## Workflow Efficiencies for Increasing Test Volumes

Over 55% Time Savings (Minutes / Case)





# In-depth Cell Analysis

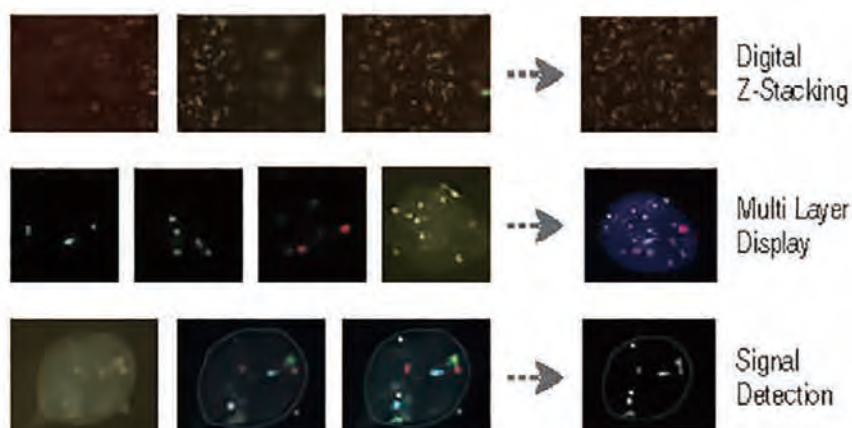


## Increased Diagnostic Confidence



### Accuracy

Automated cell/ signal detection and classification for consistent reliable results



## Easy Classification & Review

No More  
Dark Room!



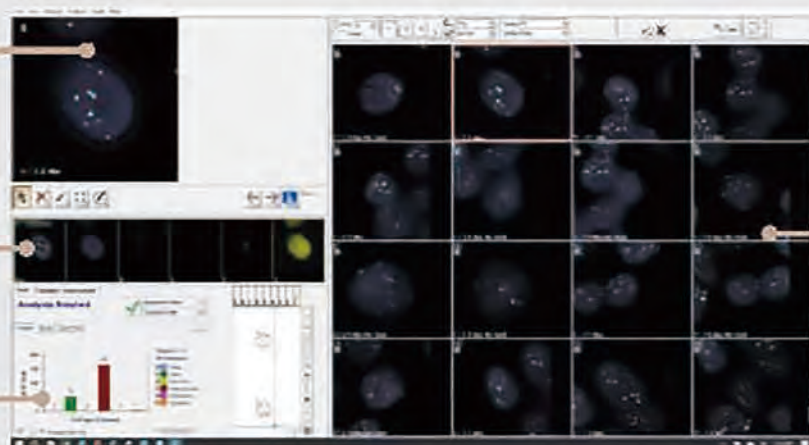
Double Blinded  
Analysis



High image quality  
with digital Z-stack of  
each cell

Multi-layer view for  
each signal

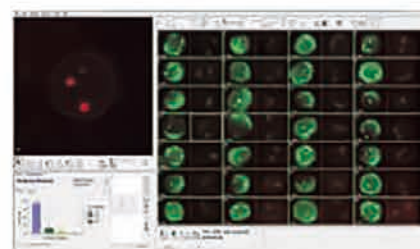
Real time statistics



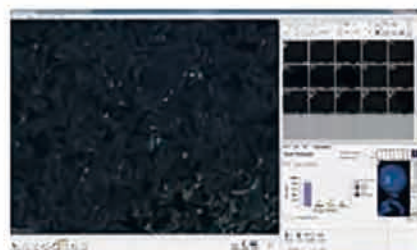
Cell gallery for  
fast and easy  
classification review

# CytoPower for Research Applications

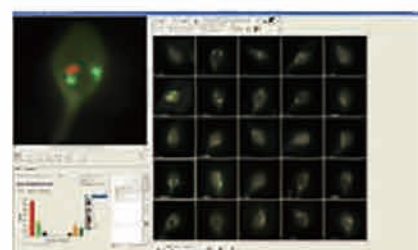
## FISH Research



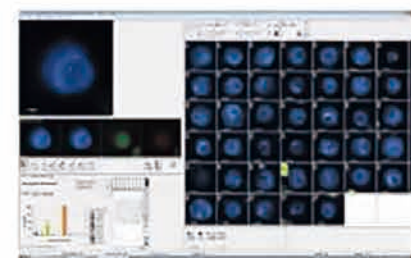
Circulating Tumor Cells



Immuno Fluorescence



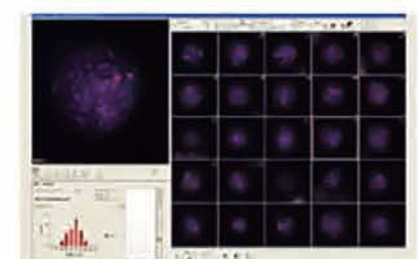
Sperm Cells



clgFISH

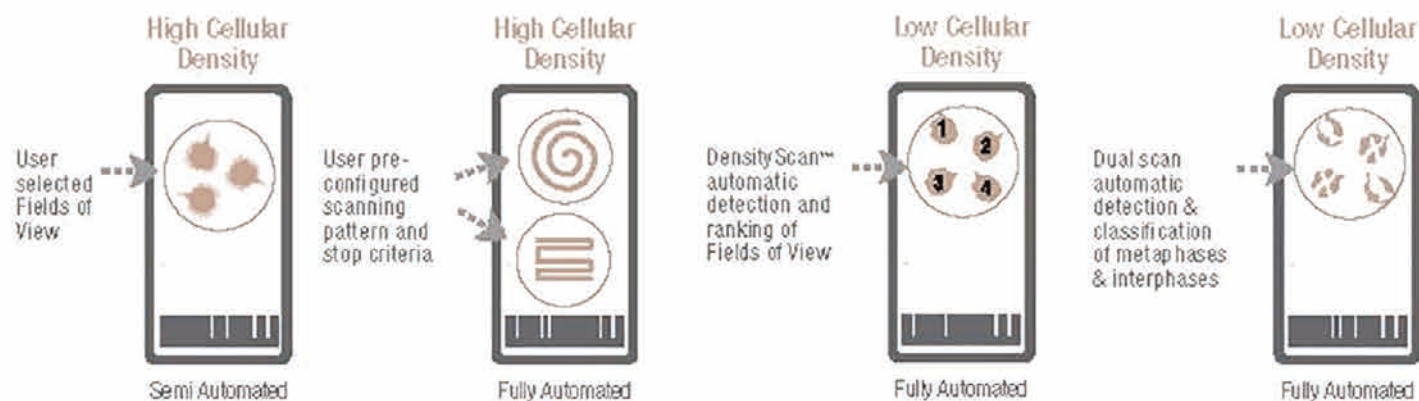


Successive Staining



Telomeres

## Scanning Protocols for All Probes, Samples and Preparation Techniques



Scan | Log | QC | Enhancement

Scan finished

Analyzed Frames: 15

Counted Cells: 10463

Index	Area	Circularity	Class	DAPI	DAPI	DAPI	DAPI
5647	211	1.448	DAPI	24476	24483	24524	0
4304	212	1.188	DAPI	30150	48542	48518	0
4264	218	1.372	DAPI	46163	46167	46258	0
1785	205	1.433	DAPI	17846	12008	14021	0
8231	208	1.377	DAPI	67889	56047	59025	0
1791	214	1.891	DAPI	71327	50324	58982	0
238	215	1.324	DAPI	39389	39718	31144	0
1787	213	1.262	DAPI	72877	42202	41820	0
6646	182	1.186	DAPI	163327	72472	51502	0
2683	228	1.864	DAPI	50295	58888	52478	0
3211	227	1.468	DAPI	84715	50151	54413	0
2479	217	1.195	DAPI	72435	39978	50134	0

Export to CSV:

☒ Body

☒ Color Intensity

☒ SRR

Classified: 10463 Reviewed: 10

## Quality Control of Probe Assays

Cell phenotyping and signal classification

Measurement and display of multiple cellular and signal properties



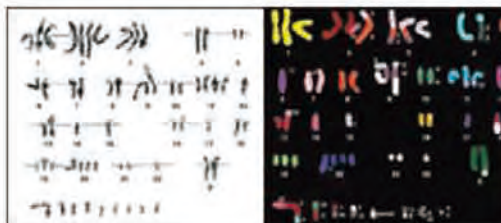
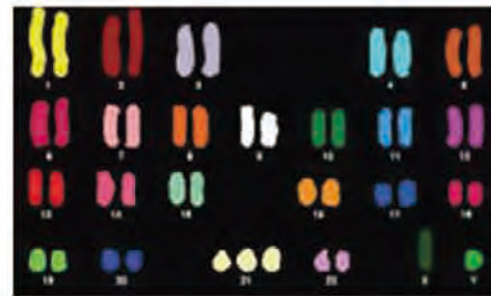
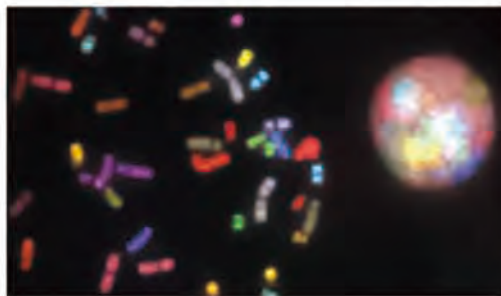
# \*HiSKY for Test Assurance

## \*HiSKY

Gold Standard Spectral Karyotyping

### Multi-Color FISH Analysis for Result Verification

- ✓ Automatic identification of translocations and chromosomal origins
- ✓ Simultaneous detection of chromosomal aberrations in one hybridization
- ✓ Measurement of entire spectrum at each point



Brain Tumor



Ewing Sarcoma

\*HiSKY is an add on application for research purposes



## MN Score

Micronuclei imaging, scoring and analysis for measurement of DNA damage, cytostasis and cytotoxicity

# Data Management and Connectivity

Modern Paperless Workflow

## Central Portal and Database Easily Integrates with Lab LIS



Case Data Management (CDM)

- ✓ Efficient
- ✓ Comprehensive
- ✓ Eliminates human error

## Work from Home!

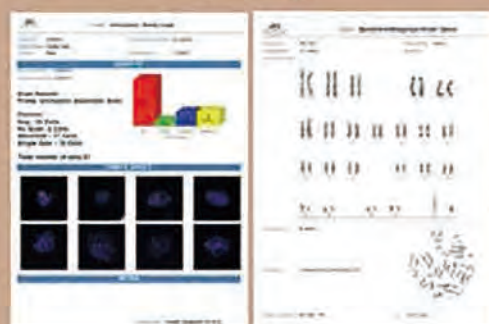
### GenASIs AnyWhere™ for Remote Access

Lab Connectivity Anytime, Anywhere

Review, analyze and sign off case information from any location via a secured network



### Advanced Reporting



### 1D/2D Barcode Reader



### LIS Connectivity

- ✓ Performance
- ✓ Security
- ✓ Data Integrity
- HIPAA Compliant



# Become a Data-Driven Lab with LabLife

NEW

## Generate lab performance statistics LabLife™ for Lab Management



### Benchmarks

Calculate performance benchmarks and track your KPIs. Meet certification and regulatory requirements



### Optimization

Identify best practices to increase ROI per case and focus improvement efforts



### Growth

Justify investment in additional capital equipment for the lab



### Annual analysis and review

Compare performance year on year and make data driven decisions



## Click for Atlas

Reference Atlas for higher assurance

NEW

Atlas provides the expert support you need to investigate, research, and confirm challenging abnormalities.

This new feature is located in BandView's toolbar for easy access during the analysis process.

<http://atlasgeneticsoncology.org/>

# About Applied Spectral Imaging

Applied Spectral Imaging (ASI) is a global leader in biomedical imaging with a comprehensive product portfolio and a global distribution footprint.

Founded in 1993, ASI markets, services and supports its products in nearly 50 countries. With a wide FDA clearance portfolio, you can rest assured that ASI applications have been rigorously tested for compliance and clinical use.

The Company's technology, powered by GenASIs, enables pathology, cytogenetics and research laboratories to provide advanced diagnostics to patients through superior digital diagnostic tools. ASI has a wide portfolio of dedicated solutions for brightfield, fluorescence and spectral imaging and analysis, including HiPath Pro, PathFusion, HiBand, HiFISH, CytoPower and Rainbow.

The Company has offices in the US and Asia and a global network of distribution partners.

## Global Presence

3,500

Systems installed  
worldwide

54

Countries through direct  
& indirect sales forces

63

Third party distribution  
partners





# The Company's Product Portfolio

Exceptional Imaging & Analysis Solutions for Laboratories

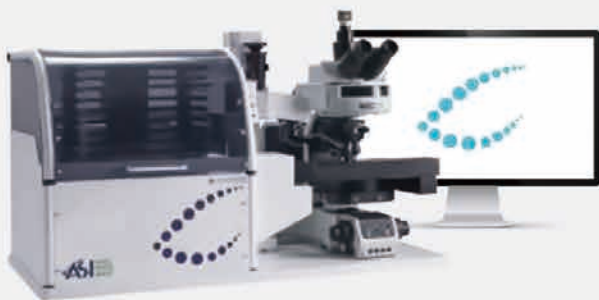
Cytogenetics

Pathology

Research



Diverse platforms to accommodate all laboratory needs



**99-Slide Tray Loader**



**9-Slide Scanning System**



**1-Slide Capture System**



**HyperSpectral System**



**Review & Analysis Station**



**AnyWhere Remote Connectivity**

# System Specifications



	Manual 1 Slide		9 Slide Motorized Stage		99 Slide Tray Loader		HyperSpectral 1 Slide
Microscope Support	BF and FL upright microscopes		OLYMPUS BX61 BF + FL OLYMPUS BX63 BF+ FL ZEISS AxioImager Z2 BF+ FL		OLYMPUS BX61 BF + FL OLYMPUS BX63 BF+ FL ZEISS AxioImager Z2 BF+ FL		BF and FL upright microscopes
Objectives	Olympus 10x/0.3NA 60x/1.25NA 100x/1.3NA	ZEISS 10x/0.3NA 63x/1.25NA 100x/1.3NA	Olympus 1.25x/0.04NA 4x/0.16NA 10x/0.3NA 40x/1.4NA 60x/1.25NA 100x/1.3NA	ZEISS 1.25x/0.03NA 5x/0.16NA 10x/0.3NA 40x/1.3NA 63x/1.25NA 100x/1.3NA	Olympus 1.25x/0.04NA 4x/0.16NA 10x/0.3NA 40x/1.4NA 60x/1.25NA 100x/1.3NA	ZEISS 1.25x/0.03NA 5x/0.16NA 10x/0.3NA 40x/1.3NA 63x/1.25NA 100x/1.3NA	10x/0.3 60x/1.42 or 63x/1.25 100x/1.3
Camera	5MP CMOS Monochrome		5MP CMOS Monochrome		5MP CMOS Monochrome		Spectral 1.3MP Monochrome
Slide Capacity	1 slide (Manual or Motorized)		9 slides		99+ slides		1 slide (Manual or Motorized)
Barcode Reader	Handheld 1D/2D		Handheld 1D/2D		Integrated 1D/2D		Handheld 1D/2D
Automated Oil Dispenser	N/A		Optional		Integrated		N/A
Dimensions [WxDxH]	According to clients microscope		61cm x 69cm x 85cm (24" x 27.2" x 33.5")		100cm x 90cm x 90cm (39.4" x 35.5" x 35.5")		According to clients microscope
Weight	According to clients microscope		45kg 99.2lb		80kg 176.4lb		According to clients microscope

SCAN ME



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**TII** 株式会社 東京インスツルメンツ  
**TOKYO INSTRUMENTS, INC.**

**ASI** APPLIED SPECTRAL IMAGING

www.spectral-imaging.com