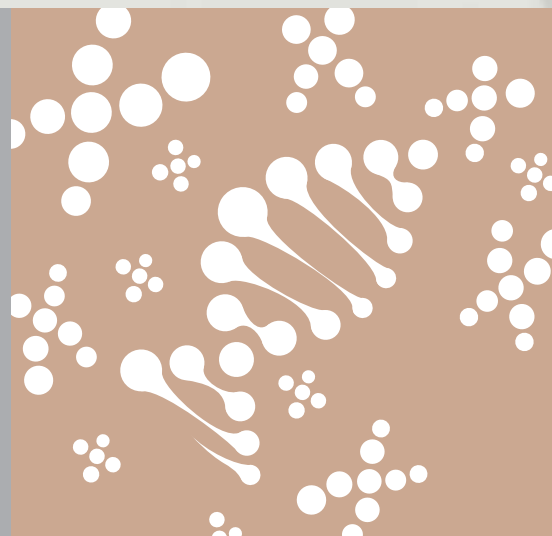




Every  
Diagnosis  
Counts

# CytoPower

Imaging and Analysis for Cytogenetics



POWERED BY  
**GENASIS**

**ASI** APPLIED  
SPECTRAL  
IMAGING

# Company Overview

## Biomedical Imaging & Analysis

Applied Spectral Imaging (ASI) is a global leader in biomedical imaging with a comprehensive product portfolio and a global distribution footprint. The Company's technology, powered by GenASIs, enables pathology, cytogenetics and research laboratories to provide advanced diagnostics to patients. 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.

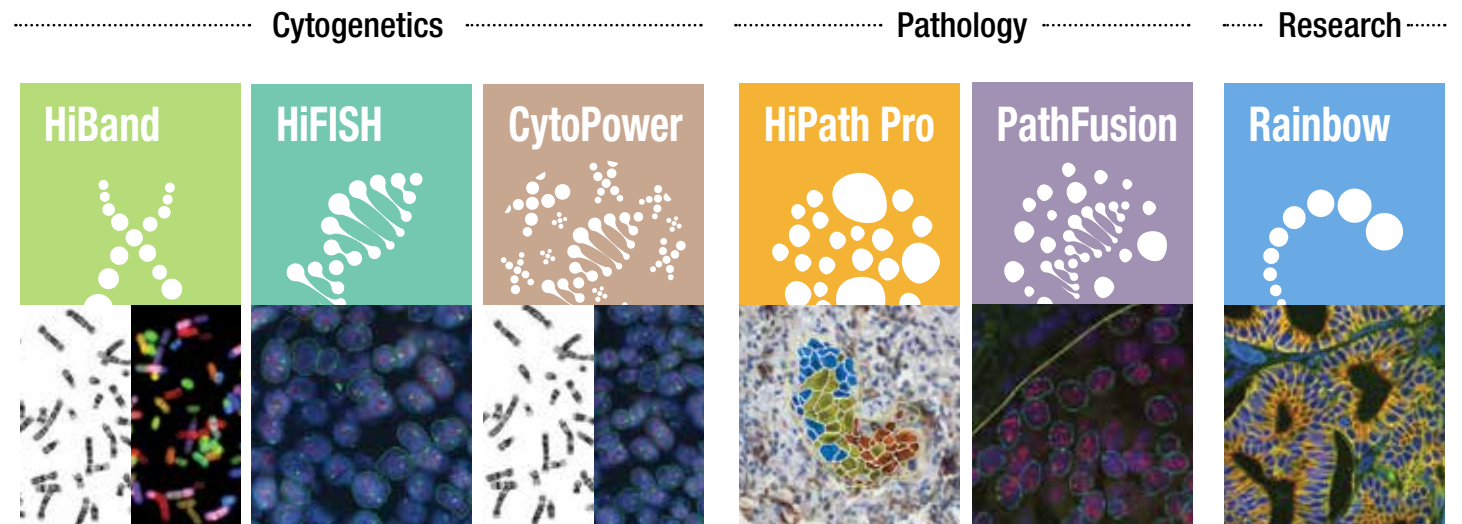
Founded in 1993, ASI markets, services and supports its products in nearly 50 countries. The Company has offices in the US and Asia and a global network of distribution partners.

## Global Presence



# Product Portfolio

## Imaging & Analysis Solutions for Laboratories



## Multi-Application Platforms to match your unique laboratory needs



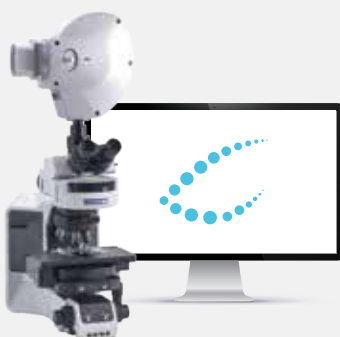
**99-Slide Tray Loader**



**9-Slide Scanning System**



**1-Slide Capture System**



**HyperSpectral System**



**Review & Analysis Station**



**Remote Connectivity**

# Digital Karyotyping & FISH Analysis

## Manual and Automated Scanning

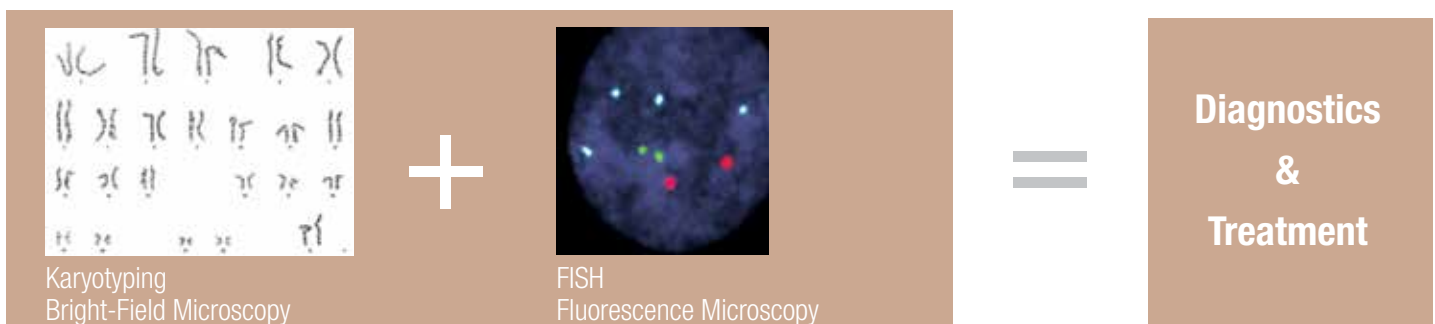
An all-in-one imaging & analysis solution for digital karyotyping and FISH diagnostics.

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

## 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:





## Optimized Productivity

Automated workflows, digital analysis and full integration maximize lab efficiencies



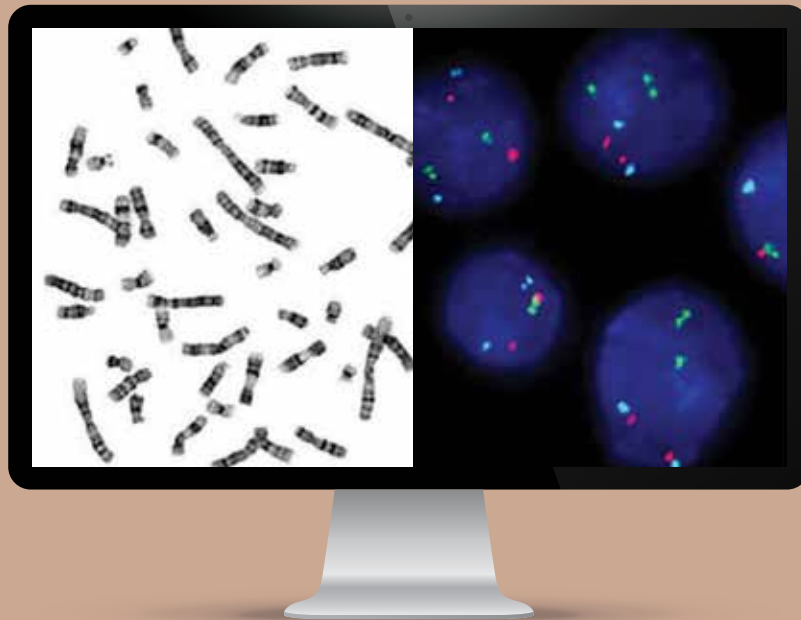
## Diagnostic Confidence

Superb image quality, powerful algorithms and feature rich software ensure results accuracy



## Multi Application

A broad sample, staining and probe menu that meets the full range of Cytogenetic demands



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

Nettie Rietema, University Medical Center Groningen, NL

# Digital Chromosome Analysis


Efficiency, Precision, Versatility

State of the Art Image Quality  
Start & Walkaway Scanning




High resolution 5MP camera sensor combined with a high quality 100x immersion oil objective


## Broad Staining and Sample Menu




G-Band



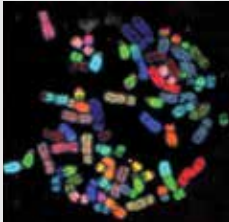
Q-Band




R-Band



FISH



Spectral



R-Band

✓ Blood

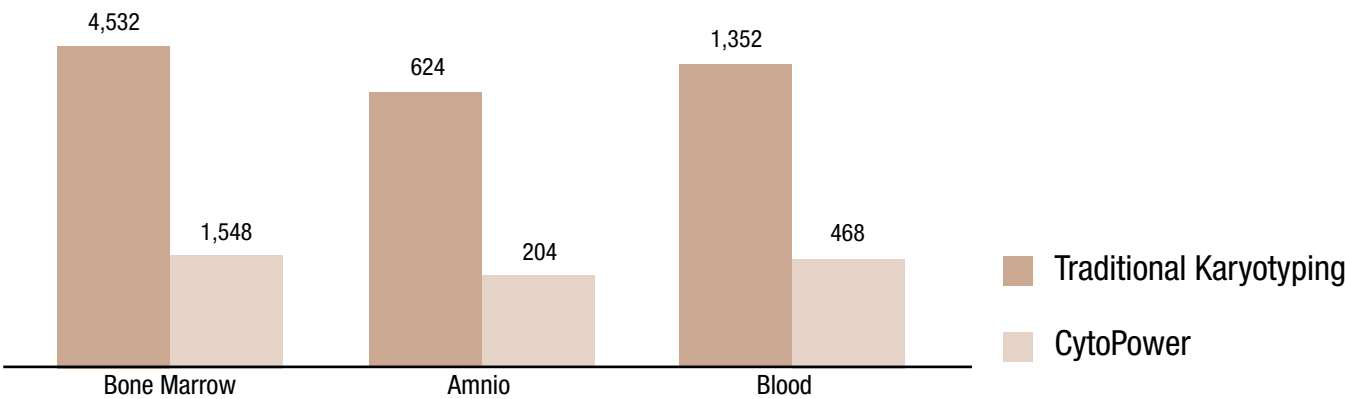
✓ Bone Marrow

✓ Amniotic Fluid

✓ CVS

## Increased Lab Productivity

66% Technologist Time Savings (Hours / Month)



Free technologist time to where their expertise is needed most



## Feature Rich Review & Analysis



### Count

Accurate automatic chromosome counting



### Analyze

Fast and easy chromosome indexing and classification



### Karyotype

Easy separation of chromosomes and advanced image enhancement

## 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 Review



### Image Gallery

Display of all case metaphases and karyotypes



### Chromosome Compare

All captured cells and chromosomes side by side



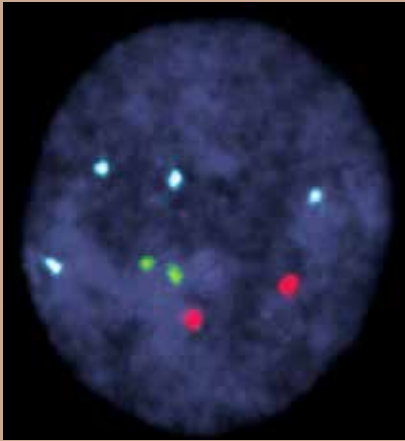
### Aberrant Ideogram

Chromosomes, cells, ideograms and annotations in an image generator

# Digital FISH Diagnostics

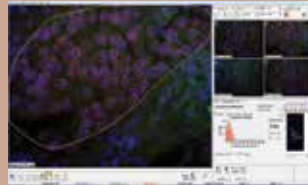
Accuracy, Consistency, Ease-of-Use

## Image Quality Driven to the Max!



### Wide Application Coverage

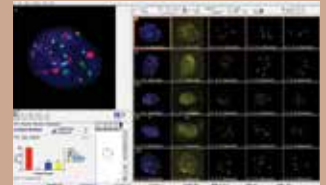
HER2/neu (Breast)



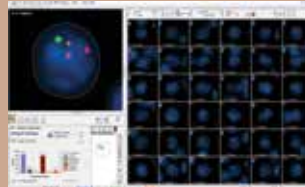
ALK (Lung)



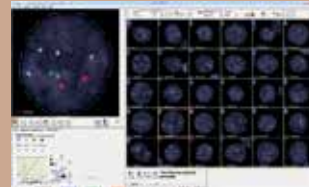
UroVysion (Bladder)



Hematology Fusion



Hematology Enumeration



✓ Any Sample

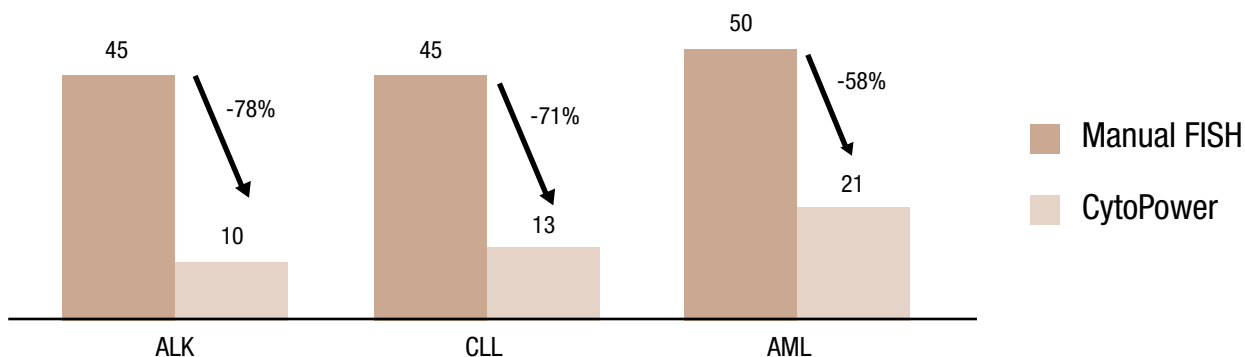
✓ Any Probe

“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. 2016

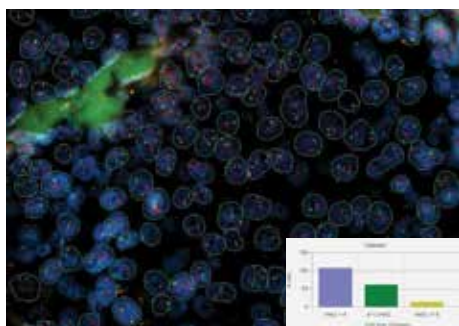
## Workflow Efficiencies for Increasing Test Volumes

**Over 55% Time Savings** (Minutes / Case)



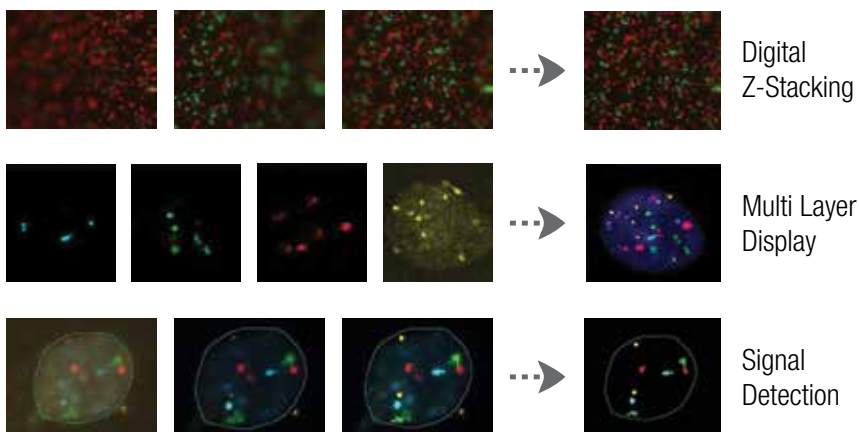


## Increased Diagnostic Confidence



### Accuracy

Automated cell/ signal detection and classification for consistent reliable results



## Easy Classification & Review

No More  
Dark Room!

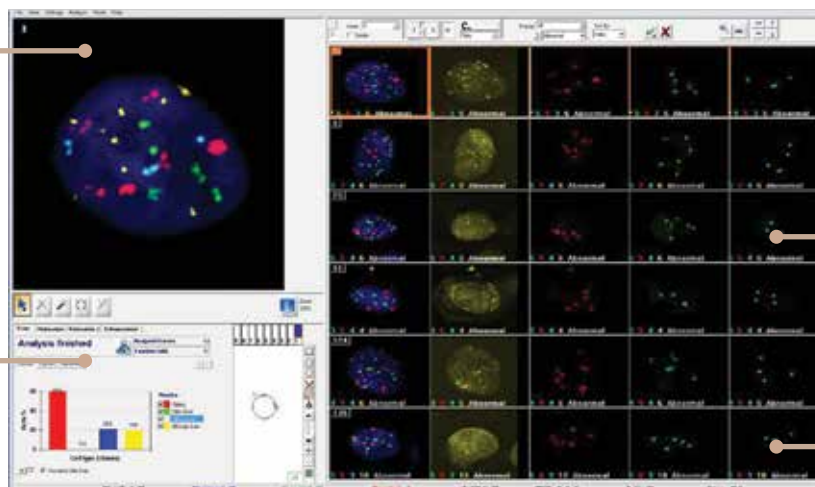


Double Blinded  
Analysis



High image quality  
with digital Z-stack of  
each cell

Real time statistics

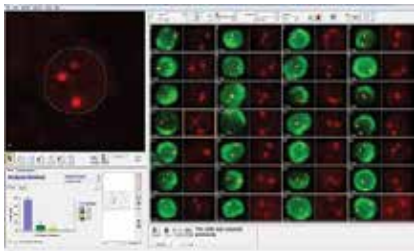


Cell gallery for  
fast and easy  
classification review

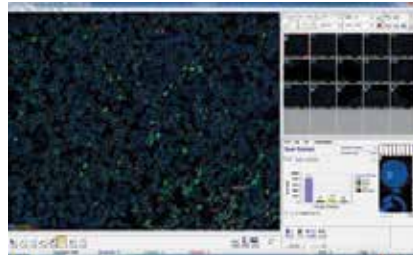
Multi-layer view for  
each signal

# CytoPower for Research Applications

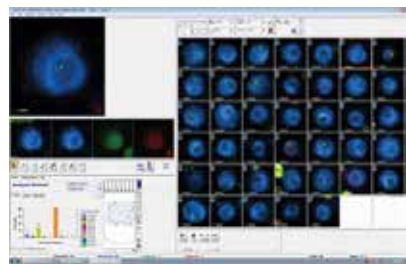
## FISH Research



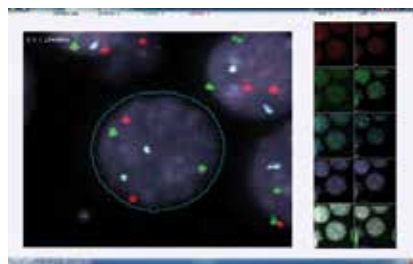
Circulating Tumor Cells



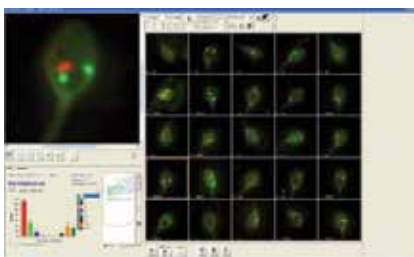
Immuno Fluorescence



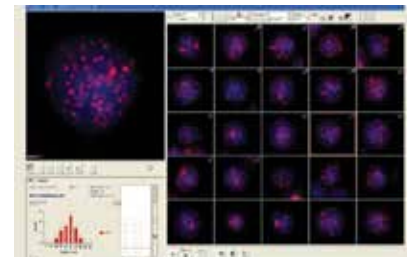
clgFISH



Successive Staining



Sperm Cells



Telomeres

Scan | Log | QC | Enhancement

**Scan finished**

Analyzed Frames: 15  
Counted Cells: 10463

Ready | Color Intensity | SNR | Cells Info

Cell#	Area	Circularity	Class	Wt. DAPI	Wt. Green	Wt. Red	Wt. Blue
8647	211	1.448	DAPI	24478	20483	24024	0
4004	212	1.186	DAPI	80180	48542	48316	0
4264	210	1.312	DAPI	44603	48267	62364	0
1706	206	1.433	DAPI	77660	52698	50921	0
8231	209	1.377	DAPI	67899	56047	50923	0
2791	214	1.891	DAPI	21527	58324	50962	0
290	215	1.326	DAPI	89995	83719	81414	0
1767	210	1.282	DAPI	72877	82252	81830	0
6654	182	1.186	DAPI	183367	72972	81830	0
2663	228	1.864	DAPI	58225	56889	52476	0
3201	257	1.468	DAPI	84213	56151	54413	0
3479	217	1.139	DAPI	79420	50970	50134	0

Export to COM:

☒ Ploidy  
☒ Color Intensity  
☒ SNR

Classified: 10463 Reviewed: 10

## Quality Control of Probe Assays

Cell phenotyping and signal classification

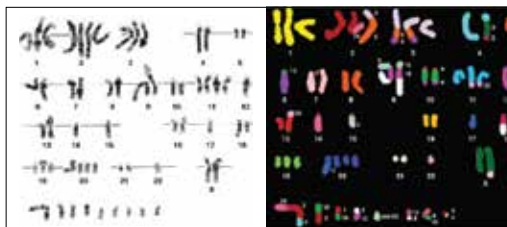
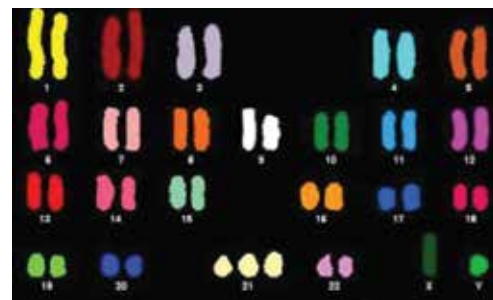
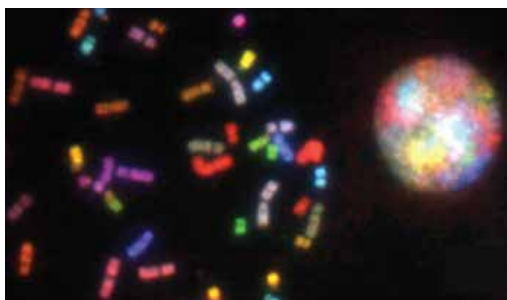
Measurement and display of multiple cellular and signal properties

# HiSKY

## Gold Standard Spectral Karyotyping

### Multi-Color FISH Analysis for Result Verification

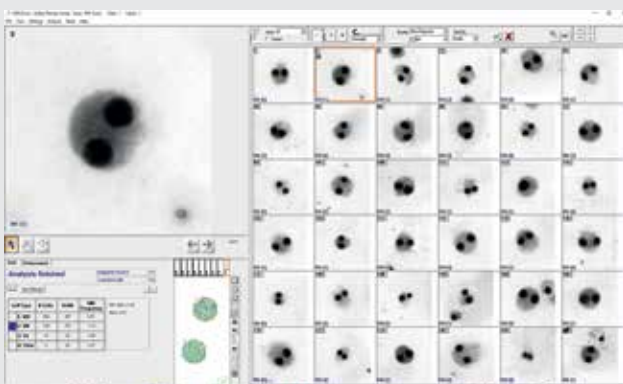
- ✓ Automatic identification of translocations and chromosomal origins
- ✓ Simultaneous detection of chromosomal aberrations in one hybridization
- ✓ Measurement of entire spectrum at each point



Brain Tumor



Ewing Sarcoma

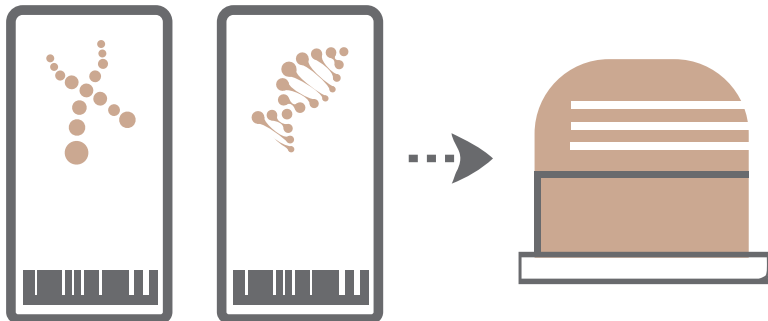


## MN Score

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

# Automated Workflows

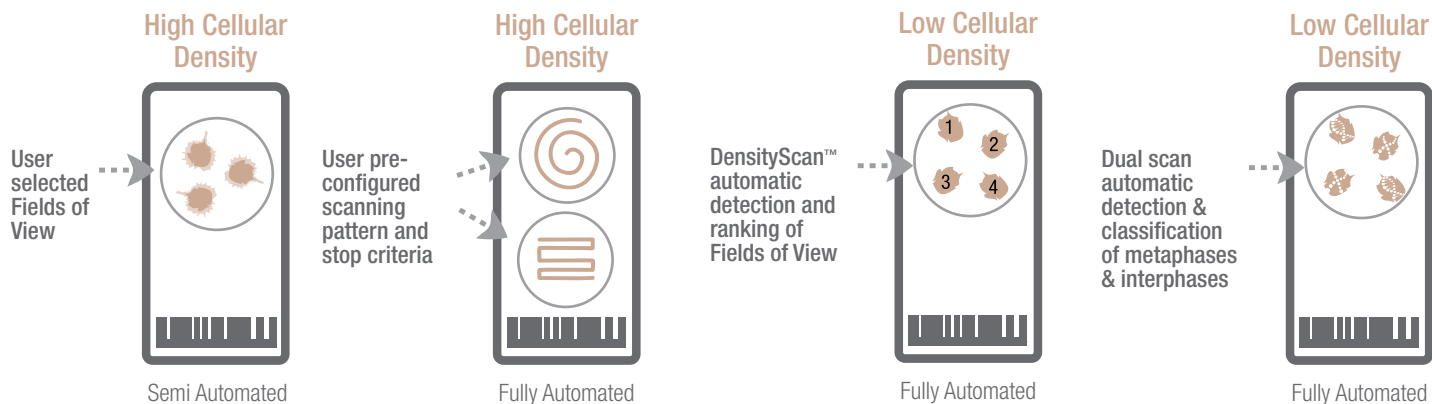
## Karyotyping and FISH in The Same Batch



## Fully Automated



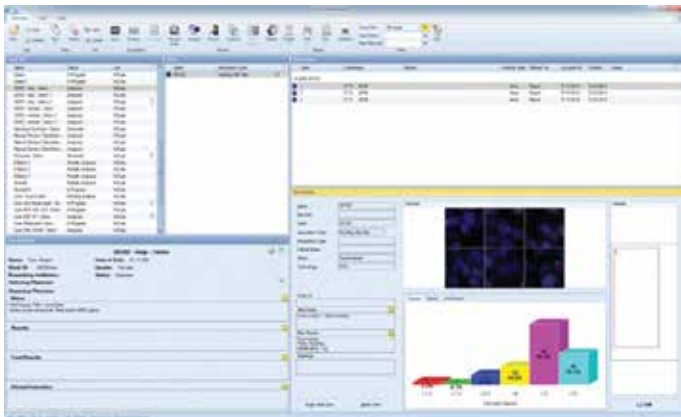
## Scanning Protocols for All Probes, Samples and Preparation Techniques



# Data Management and Connectivity

Modern Paperless Workflow

## Central Portal and Database Easily Integrates with Lab LIS



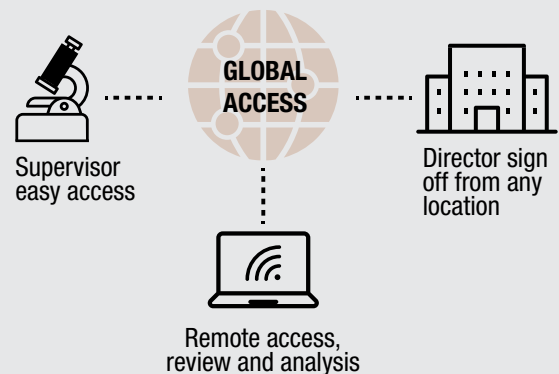
Case Data Management (CDM)

- ✓ Efficient
- ✓ Comprehensive
- ✓ Eliminates human error

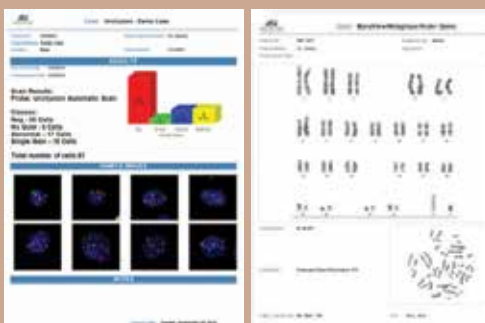
## GenASIs AnyWhere™ for Remote Access

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**



# Chromosome Analysis and FISH Diagnostics

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**Automatic Slide  
Scanning**

**Digital Karyotyping  
and FISH Analysis**

**View, Manage  
and Share**

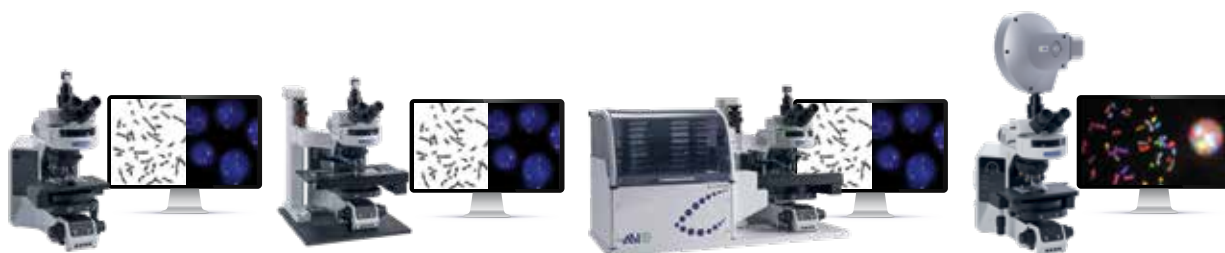


**"CytoPower allows us to view much more cells than we would with a manual microscope, which leads to more accurate and reliable FISH results. Manual FISH analysis is also tedious and leads to technologist fatigue but CytoPower never gets tired."**

Dr. Yarin Hadid, Bnai Zion Medical Center



# 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 OLYMPUS BX63 ZEISS Axiomager Z2	OLYMPUS BX61 OLYMPUS BX63 ZEISS Axiomager Z2	BF and FL upright microscopes
Objectives	10x/0.3 60x/1.42 or 63x/1.25 100x/1.3	1.25x/0.04 (Optional) 10x/1.3 40x/1.3 60x/1.42 or 63x/1.42 100x/1.3	1.25x/0.04 (Optional) 10x/1.3 40x/1.3 60x/1.42 or 63x/1.42 100x/1.3	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 PLUS	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]	20cm x 60cm x 50cm	45cm x 90cm x 85cm	100cm x 90cm x 85cm	28cm x 44cm x 85cm
Weight	8kg	54kg	82kg	20kg



North America  
Applied Spectral Imaging Inc.  
Tel: +1 760 929 2840  
[sales-inc@spectral-imaging.com](mailto:sales-inc@spectral-imaging.com)

Headquarters  
Applied Spectral Imaging Ltd.  
Tel: +1 817 886 6031  
[sales@spectral-imaging.com](mailto:sales@spectral-imaging.com)



[www.spectral-imaging.com](http://www.spectral-imaging.com)