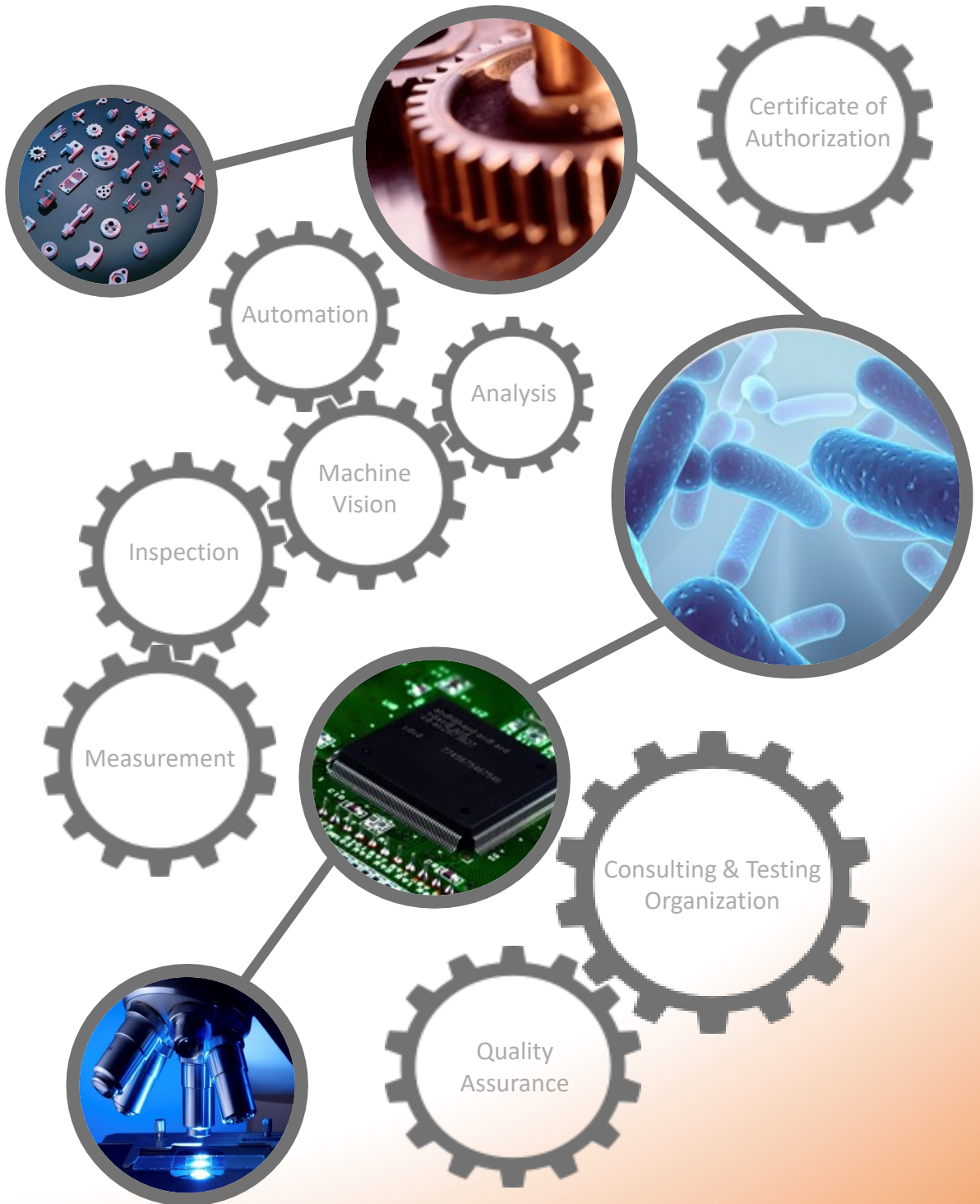




Total Imaging Solution Provider



Korean made software

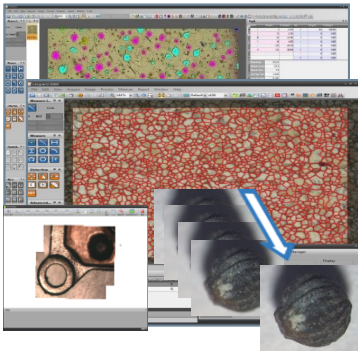


Leopard™

Analysis

i Series

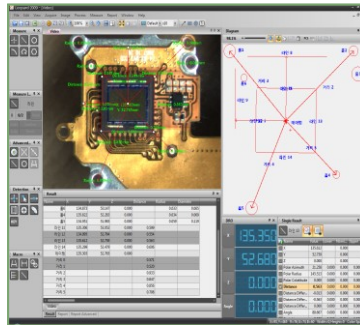
for inspection microscope



Metrology

m Series

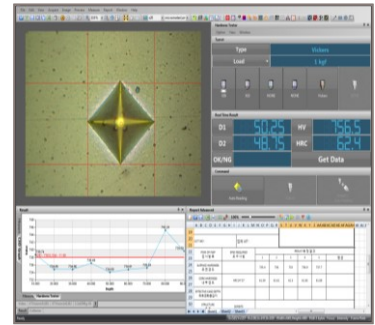
for measuring microscope



Hardness Tester

h Series

for hardness testing



i Series & m Series

It is a software that can analyze and measure images in real time in conjunction with all the inspection equipment using camera. Supports a variety of quick functions for analyzing high-resolution images in real time. And with an easy-to-use user interface, you can do your job quickly and easily. It supports a variety of cameras and supports optical inspection equipment such as biological / metal microscopes, tool microscopes, video microscopes and x-ray equipment.

h Series

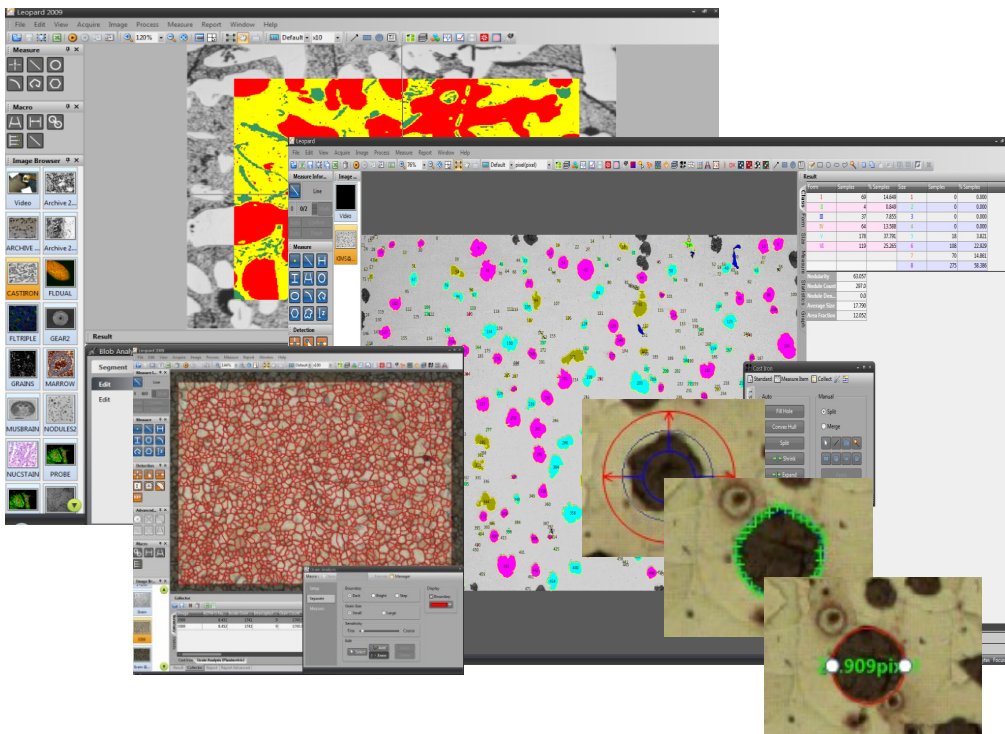
It is a software that can measure the hardness using the hardness meter. Hardness tester such as microspheres, Vickers, Loops, Brinell, etc. can be measured. In addition, various specifications are provided so that the measured values can be checked under various standards. You can control the equipment in the software and use it more conveniently.

Leopard™

Multipurpose Image Analysis Software

i Series

iXMR Series



- Analyze and measure the images in real-time.
- Capable of various inspection devices using camera.
- Supports various and quick functions to analyze high resolution images in real time.
- User-friendly interface to perform the task easier and faster.
- Supports various cameras and optical inspection device.

Guideline

System Diagram



USB CAMERA



PC WORKSTATION

- Stereo microscope
- High power microscope
- Monocular microscope
- Etc..

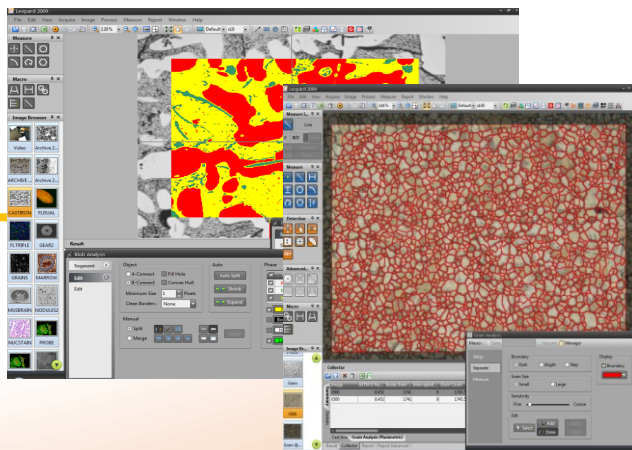
Leopard™
Multipurpose Image
Analysis Software

Capturing
Processing
Image Synthesis
Measurement
Report



MICROSCOPE

RESULTS



Software Interface

IMAGE BROWSER WINDOW

TOOLBAR

MEASURED RESULT DISPLAY COLUMN

The screenshot displays the Leopard software interface. The central window shows a grayscale image of particles with various colored overlays (magenta, cyan, yellow, blue) and numerical labels. The interface includes a toolbar on the left with icons for measurement and analysis. On the right, a 'Result' table displays data for different particle classes. In the foreground, a 'Cast Iron' procedure edit window is open, showing options for 'Auto' and 'Manual' processing, including 'Fill Hole', 'Convex Hull', 'Split', 'Merge', 'Shrink', and 'Expand'. The 'Manual' section has 'Merge' selected.

Form	Samples	% Samples	Size	Samples	% Samples
I	67	14.649	1	0	0.000
II	4	0.849	2	0	0.000
III	37	7.855	3	0	0.000
IV	64	13.588	4	0	0.000
V	178	37.791	5	18	3.821
VI	119	25.265	6	108	22.929
			7	70	14.861
			8	275	58.386

Result Summary:
Nodularity = 63.057
Nodule Count = 297.0
Nodule Den... = 0.0
Average Size = 17.790
Area Fraction = 12.052

Cast Iron Procedure Edit:
Standard Measure Item Collect
Auto: Fill Hole, Convex Hull, Split, Shrink, Expand
Manual: Split, Merge (selected), Shrink, Expand

LIVE MEASUREMENT WINDOW

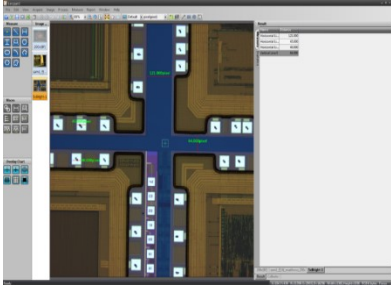
LIVE VIDEO DISPLAY WINDOW

PROCEDURE EDIT WINDOW

Software Functions

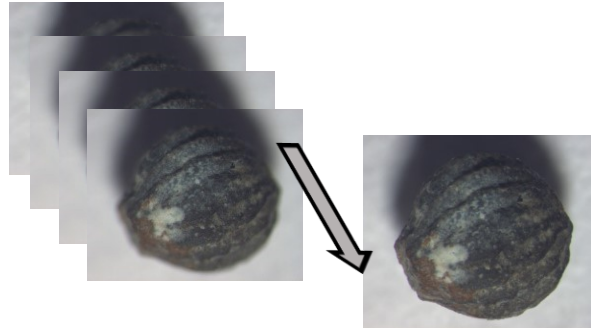
Basic/Live Measurement Tools

Live preview image on monitor to perform analysis without having to capture the image in-advance



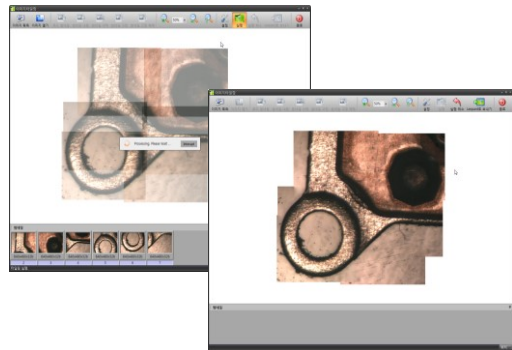
Multi Focus

Provides extended focus capability to overcome limited depth of focus in high magnification microscopes.



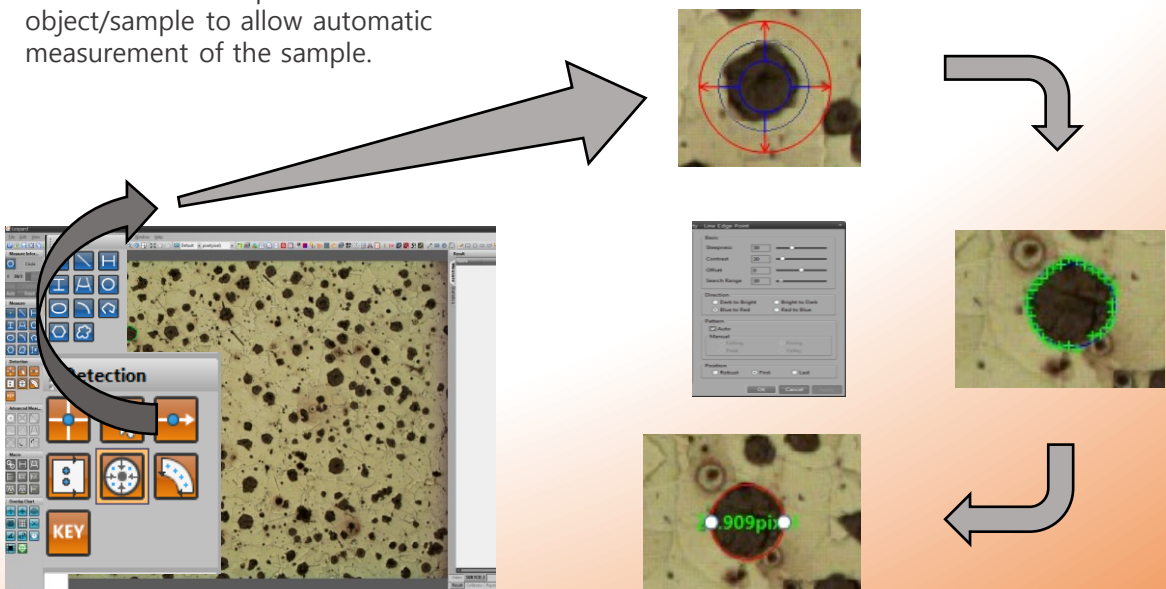
Manual Tiling

Large size (Field of View) specimen can be captured separately and combined to form one complete image.



Auto Edge Detection

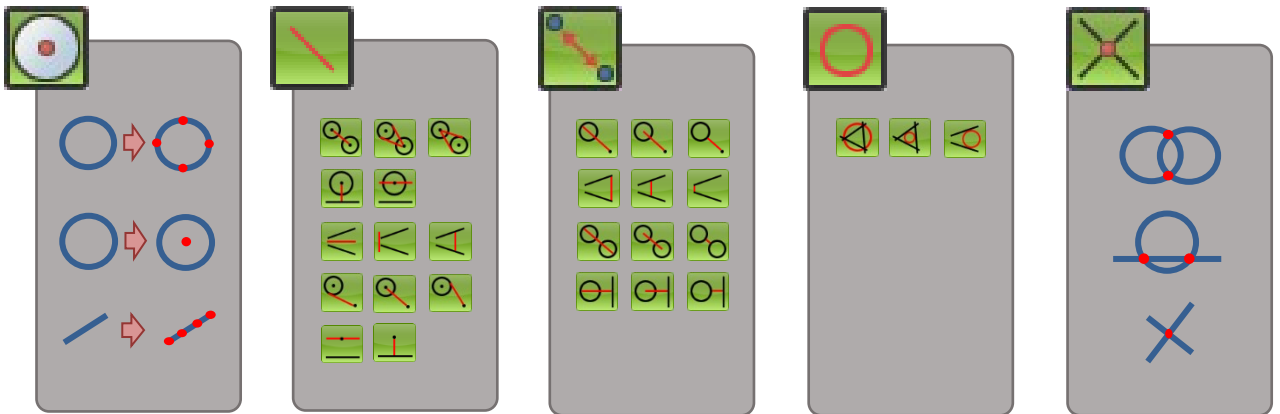
Automatically detected edges of various kind of shape of an object/sample to allow automatic measurement of the sample.



Software Functions

Advanced Measurement Tool

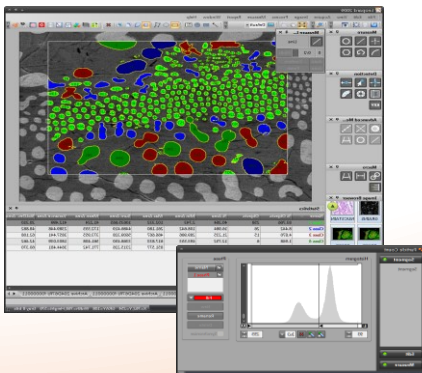
Tool for additional measurement



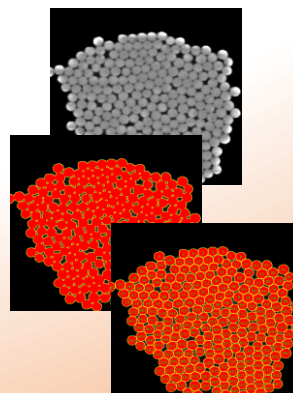
Particle Analysis

- Support analysis tools automatically detecting and analyzing the objects in the image
- Measure number, area and perimeter, etc of detected objects
- Object detection in various color spaces such as RGB, CMYK, HSI, HSV, HLS, YUV, YIQ, YCbCr, LUV, Lab, etc.
- Supports various AOI tools, specifies upper and lower limit values of the analysis
- Automatic/manual classification function

Particle detection and Analysis



Auto Classification and Edit



Report

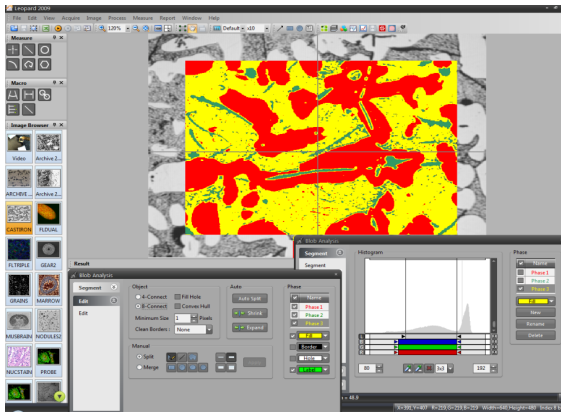


Item No.	Item Name	Item Code	Item Description	Item Status	Item Qty
101	ITEM 101	ITEM 101	ITEM 101	ITEM 101	ITEM 101
102	ITEM 102	ITEM 102	ITEM 102	ITEM 102	ITEM 102
103	ITEM 103	ITEM 103	ITEM 103	ITEM 103	ITEM 103
104	ITEM 104	ITEM 104	ITEM 104	ITEM 104	ITEM 104
105	ITEM 105	ITEM 105	ITEM 105	ITEM 105	ITEM 105
106	ITEM 106	ITEM 106	ITEM 106	ITEM 106	ITEM 106
107	ITEM 107	ITEM 107	ITEM 107	ITEM 107	ITEM 107
108	ITEM 108	ITEM 108	ITEM 108	ITEM 108	ITEM 108
109	ITEM 109	ITEM 109	ITEM 109	ITEM 109	ITEM 109
110	ITEM 110	ITEM 110	ITEM 110	ITEM 110	ITEM 110

Software Functions

Phase Analysis

- Segment various area and measure with various measure items
- Support auto detection for the Phase in the image



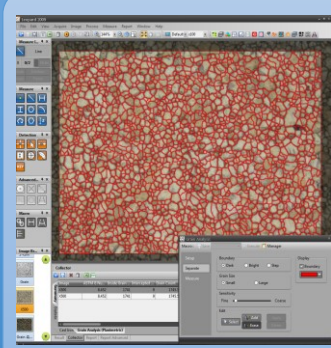
Result				
Name	Samples	% Samples	Statistics	Area
Phase 1	524	79.514 %		21.336
Phase 4	135	20.485 %		78.663

Result	
Item	Area
Min	11.000
Max	229385.000
Range	229374.000
Sum	303712.000
Mean	460.867
Variance	79749436.989
Std.Dev.	8930.254
Total Area	307200.000
Objects' Area	21.094 77.770
Samples	659

Grain Analysis

- Leopard analyzes metal grain under various International Standards.
- Supported International Standard : ASTM (E112, E930, E1181, E1382) and Custom Standard
- Leopard support three types of analyze method.
Planimetric, Intercept, Chart Comparison

Planimetric Method



Intercept Method

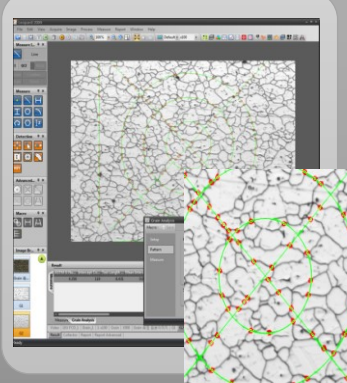
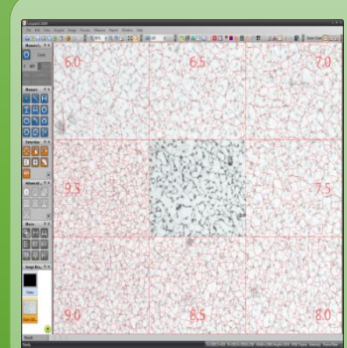


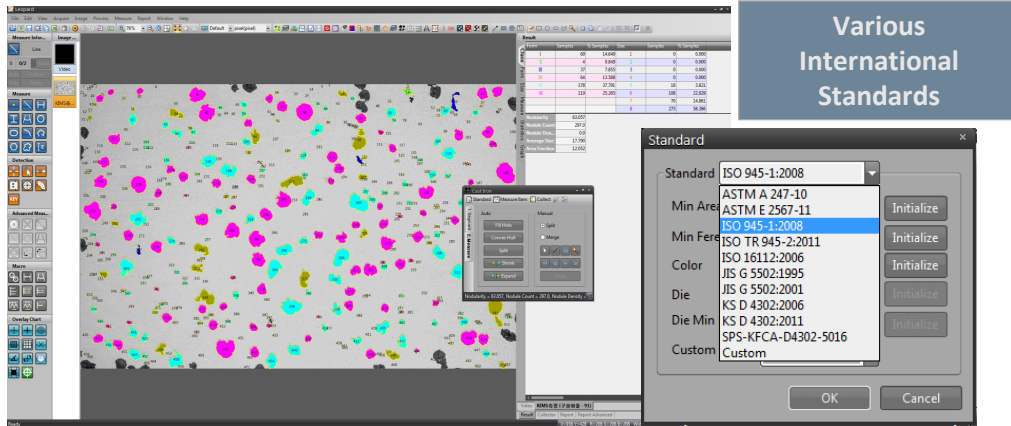
Chart Overlay Method



Software Functions

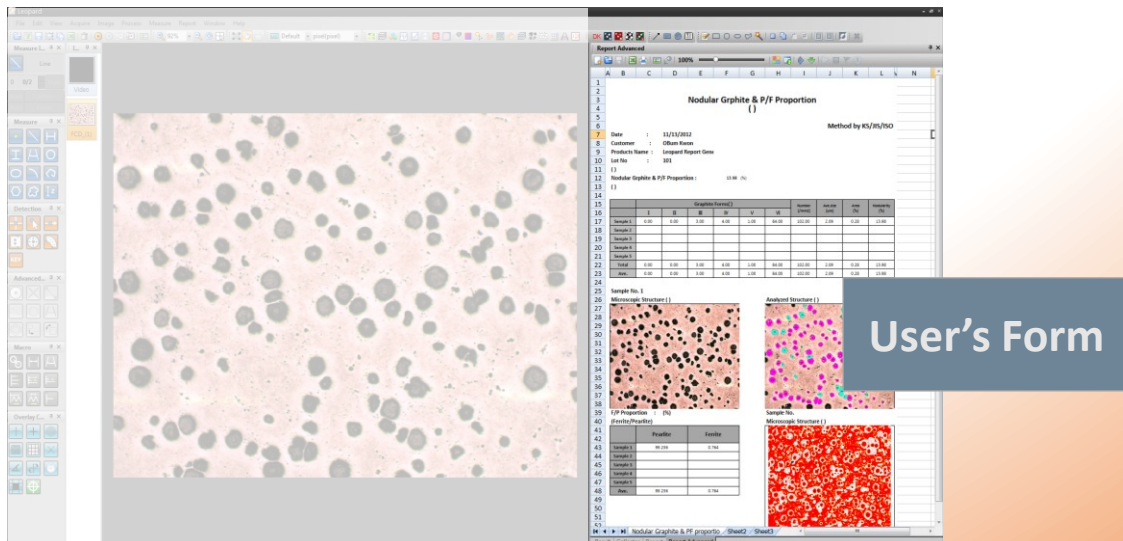
Cast Iron Analysis

- Leopard analyzes metal cast iron under various International Standards.
- Supported International Standard :
ASTM A 247-10, ASTM E 2567-11, ISO 945-1:2008, ISO TR 945-2:2011,
ISO 1611:2006, JIS G 5502-2001, JIS G 5502:1995, KS D 4302:2006,
KS D 4302:2011, SPS-KFCA-D4302-5016, and Custom Standard



Report Manager

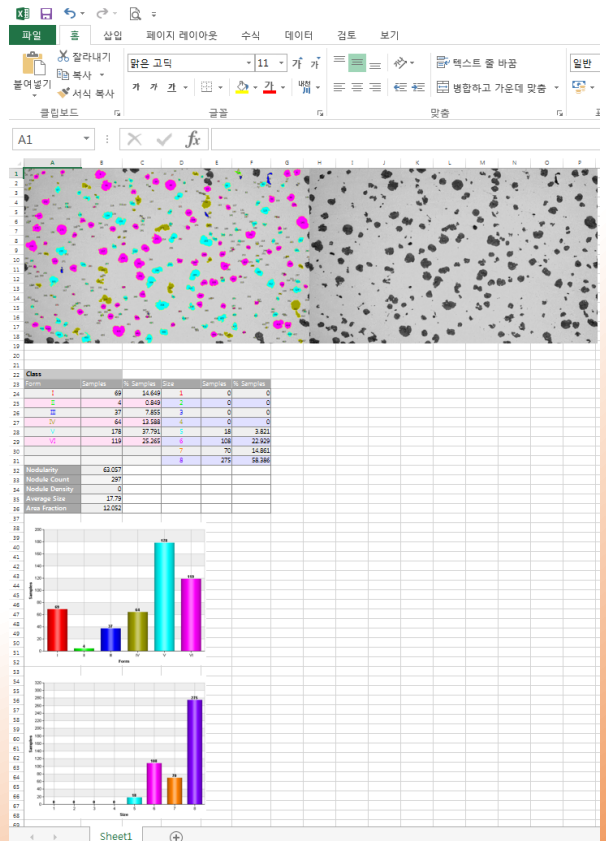
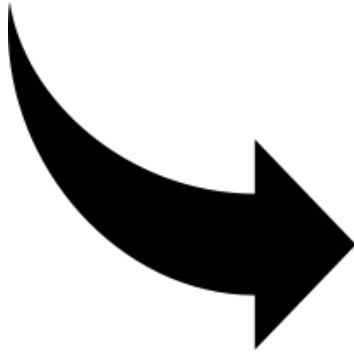
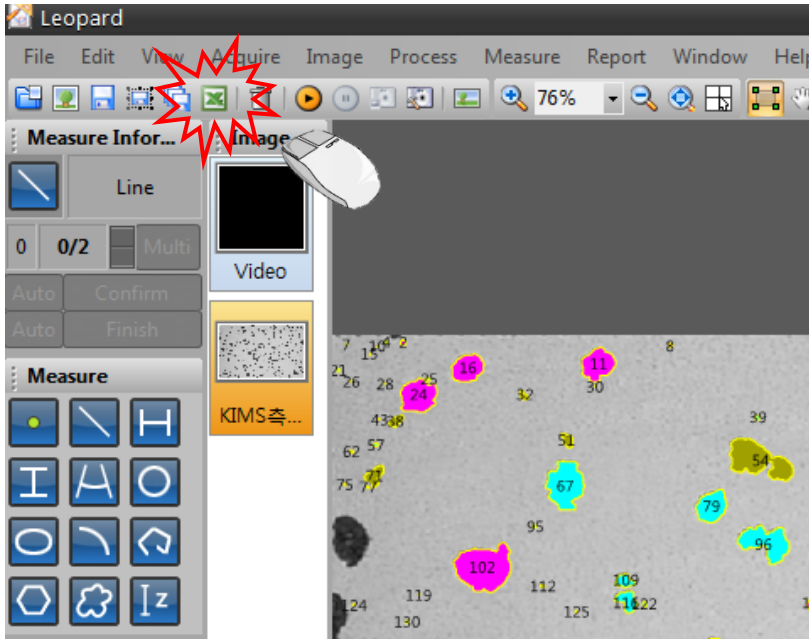
- Support data output by customer's document.
- Customer could set a recipe for various function. (Measurement, Image, Analysis data, ETC.)



Software Functions

Excel Reporting System (Basic Program)

Export image and data to Microsoft Excel™ by one click.



Specification Tables

Model		iL	iX	iXM	iXMR	
Functions	Capture	Camera Control	X	X	X	X
		TWAIN, WDM	X	X	X	X
		Multi-Capture		X	X	X
		Time Lapse		X	X	X
	Processing	Basic Filter	X	X	X	X
		Extended Filter		X	X	X
	Image Synthesis	Manual Tiling	X	X	X	X
		Manual Multi-Focus	X	X	X	X
		Extended Tiling		X	X	X
		Extended Multi-Focus		X	X	X
		Auto Edge Detection		X	X	X
		Extended AOI		X	X	X
	Measurement	Basic Measurement	X	X	X	X
		Live Measurement	X	X	X	X
		Extended Measurement Tools		X	X	X
		Particle Analysis		X	X	X
		Phase Analysis			X	X
		Grain			X	X
		Cast Iron			X	X
		Nonmetallic Inclusion				
AMS	Stage Not Included					
Report	Excel Reporting System	X	X	X	X	
	Report Manager				X	

Specification Tables

Model		iXMA	iXI	iXIR	iXIA	
Functions	Capture	Camera Control	X	X	X	X
		TWAIN, WDM	X	X	X	X
		Multi-Capture	X	X	X	X
		Time Lapse	X	X	X	X
	Processing	Basic Filter	X	X	X	X
		Extended Filter	X	X	X	X
	Image Synthesis	Manual Tiling	X	X	X	X
		Manual Multi-Focus	X	X	X	X
		Extended Tiling	X	X	X	X
		Extended Multi-Focus	X	X	X	X
		Auto Edge Detection	X	X	X	X
		Extended AOI	X	X	X	X
	Measurement	Basic Measurement	X	X	X	X
		Live Measurement	X	X	X	X
		Extended Measurement Tools	X	X	X	X
		Particle Analysis	X	X	X	X
		Phase Analysis	X	X	X	X
		Grain	X	X	X	X
		Cast Iron	X	X	X	X
		Nonmetallic Inclusion		X	X	X
AMS	Stage Not Included	X			X	
Report	Excel Reporting System	X	X	X	X	
	Report Manager	X		X	X	

Minimum PC Requirement

FULL HD 1080p @ 59,94/50Hz		
OS	Desktop	Laptop
	Windows 7, 8 or 10 (with DirectX 11)	
MEMORY	At least 8GB or above	
CPU	Intel® Core™ i5 @2.4GHz, (5th generation or above)	Intel® Core™ i5 @2.4GHz, (5th generation or above)
HARD DISK SPACE	1GB required (SSD type recommended)	
CONNECTIONS	USB 2.0 xHCI host controller (Intel chipset recommended)	
INTEGRATED GRAPHICS	Intel® HD Graphics 4000	Intel® HD Graphics 4400
DEDICATED GRAPHICS CARD	Min: nVidia GeForce GT730 2GB DDR3/DDR5 128 bit. Recommended: nVidia GeForce GTX 750Ti DDR5 128bit	nVidia GeForce GT 740M with 2GB RAM
MONITOR RESOLUTION	1920x1080 (recommended) FULL HD	

Software recommended:

Windows 8: Windows 8 Camera App

Windows 10: Windows 10 Camera App

Camera Option & Adapter



USB 2.0 Full HD Camera
(Opticam Korea)



USB 2.0 Full HD Camera
(Sentech Japan)



C-Mount Adapter

Zotos reserves the right to modify the product design and change the specifications for continuous product improvement without any prior notice.

Buyers are advised to refer valid and up-to-date quotation for final design and specifications.

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