

## **Features included in iSolution Lite, i-Solution™ , iSolution DT**

### **Include:**

#### **Live Measurement and Overlay Settings**

Users can perform measurements on the live preview image, using the crosshair or grid masks to center and count. The grid masks include calibration data. Calibration marker (scale bar) can be placed on the live preview image. The marker (scale bar) can also be burned on each captured image automatically. Any standard file format image can be chosen to see it above live preview image

#### **Calibration (Auto, Manual)**

All measurements start with an accurate calibration. Auto and Semi-Auto calibration functions allow the software to calculate the pixels-per-unit value automatically. One need only to set the unit for the calibration scale and the distance between the scale marks. This feature greatly improves the accuracy and repetition of measurements. Manual calibrations are easily added and saved for recall from a drop down menu. A scale bar can be permanently added to each image. Scale bar properties for color, size and text are simple to optimize for any image background.

#### **Z-Axis Extended Focus Imaging (EFI), with displacement compensation for stereo microscopes**

Samples with curves or of varying heights are difficult to bring into focus under highly magnified conditions. Software can combine a stack of images sequentially captured at different levels of focus and combine them into a single in-focus image. You can count on our software not to leave any trace of the composites.

#### **3D Visualization. . . clearly view complex structures**

A Three-dimensional picture can be created from any image. The 3-D presentation is based upon intensity values of the image and can be displayed as a normal or wire frame image. Z axis information can easily be adjusted to optimize the 3-D effect. To better visualize an image in 3-D, software offers full 360 degrees of rotation on X-Y-Z axis. A 3D image can then saved in JPG, TIF or BMP format.

#### **Image Stitching. . . create a mosaic of the “Big Picture”**

With our software, you can create auto composites of continuously captured images in order to minimize the reduction in the field-of-view that typically comes with increased magnification. Combined images are automatically corrected for brightness.

#### **Live Image Comparison. . . for fast inspection and size verification**

For QA testing or quick go/no-go inspections any stored image can be used as a reference image onto which the live preview image is projected.

### **Time Lapse Capture and Movie File Production. . . Import into Power Point**

Software features a Time Lapse Capture function that supports TIF, BMP and JPG file formats. The Time Lapse Capture function also includes an Auto Save feature. You can save video movie recordings in AVI, MPG, MPEG, and MOV formats.

### **Combine Image Planes - Fluorescence Imaging**

Merge and pseudo color monochrome images into a single RGB composite.

### **Export Into Excel® - with one mouse click**

A single mouse click exports the original image with measurement, calibration, annotation overlay, measurement data, statistics, and chart.

### **Manual Measurement Tools - Including Various Perpendicular Distance**

Software's versatile manual measurement features include tools for measuring lengths, areas, and angles and can even auto detect an object's outline and then make specified measurements. The software is equipped with a wide choice of powerful measurement tools including 3-point circle functionality, N-point circle measurement functionality, parallel line distance measurement, perpendicular distance measurement and object distance measurement. In addition, a zoom-in window can be used to determine the accurate measuring point of an object. Once you've measured a specimen you can easily export all of the images, measurement data and statistics to an Excel® file. With iSolution Lite, i-Solution & iSolution DT, comprehensive statistics and data are just one effortless mouse click away.

### **Line Profiling**

Single, multiple, parallel and polyline commands provide intensity values for specific lines within an image.

### **Auto Trace**

Using an automatic edge detection algorithm, our software will perform an auto trace measurement function around a closed object. This function greatly increases accuracy and saves time when making measurements of complex shapes.

### **Image Processing**

Manual Brightness, Contrast, Gamma, Background Subtraction, Shading Correction, Histogram, Clone, Crop, AOI, Resize, Rotate, Split, Merge Monochrome series into RGB Color, Combine different exposure Images for highlight reduction, Image Mode Change, Grayscale, RGB, HSB, YUV Pseudo Color view, Full range of enhancement and morphology filters 8bit and 16bit per channel

### **Manual Measurements**

Point Count, Straight Line, Circle by radius, Circle by N points, Circle by diameter, Circle by 3 points, rectangle, polygon, polyline, splice lines from a common point, auto trace, angle parallel lines, perpendicular width, perpendicular from common line, angle between 2 lines, distance,

perpendicular distance.

#### **Annotation**

Line, arrow, polyline, spline, rectangle, ellipse, text

#### **Region of Interest- ROI. . . with unique add/subtract capability**

Rectangle, arbitrary rectangle, circle, arbitrary ellipse, polyline, spline, magic wand

#### **Line Profile**

Straight line, polyline, parallel line. Each profile in a different color.

#### **View and Zoom Image**

Manual zoom In-Out, User Defined, Fit to Window, 1600% Zoom in Window for Accurate Edge Detect, sizeable context Window to view all open Images

#### **Image Editing**

Undo, Redo, Copy, Paste, Paste New, Delete, Delete All, Annotate, Image Information

#### **Save Options**

TXT File Format, image and measurement data together in Proprietary .img File Format for future editing and data collection

#### **Supported Image File Formats**

jpg, jpeg, jpe, tif, tiff, bmp, gif, pcx, tga, mpg, mpeg, avi, mov, img, rpt, txt and etc.

#### **Report Generator**

Create Report, Insert Image and Data, Insert other OLE Objects

#### **Window View**

Split Horizontal, Split Vertical, Cascade, Tile Horizontal, Tile Vertical, Arrange icons, Dynamic User Interface (UI); Classic, Modern

#### **Time Lapse Sequence Control**

Play Forward, Backward, Making Movie File (mpg, avi, mov) with Still Images, Split Single Image from Sequence File

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## **With i-Solution™ and iSolution DT you get these additional features!**

#### **Auto/Manual Thresholding for Count and Size**

Intensity based thresholding tools for identifying, counting and categorizing objects.

Ideal for automatic objects counting and percentage of area measurements.

#### **Over 67 selectable measurements (iSolution DT)**

A complete menu of measurement types with a description of the parameter

#### **Objects Editing... enhanced measurement accuracy!**

Target threshold objects can be edited by all measurement parameters or with

filters to clean, close, open, dilate, erode, automatic separate and fill holes.

#### **Macro-Enabled Recording**

Create and save customized measurement settings and sequences

#### **Data Collector**

Select desired measurements then easily collect and tabulate data from multiple samples.

#### **Reflected Light Subtraction**

i-Solution™ & iSolution DT create clear, evenly illuminated images by removing the bright saturated light from a highly reflective sample.

#### **Automatic count for live and stained cells**

Conglomerated live and stained cells are separated automatically and counted.

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### **With i-Solution™ DT you get these additional features!**

#### **Large Size Object Measurement**

iSolution DT allows to measure images even outside the Field of View (FOV) as well as within the FOV. Measurement stage (including linear scale) is not needed for such a purpose. Software tracks objects movements within the image at high-speeds, then uses the results to automatically extrapolate the distance between the two objects. IMT i-Solution Inc. has the patent in this technology.

#### **Auto Edge Detector**

iSolution DT automatically detects the edge of any object being measured, including lines, points, circles, boxes.

#### **Densitometry**

iSolution DT automatically calculates Optical Density (OD) by absolute and relative figures, semi automatically, or manually based on user configuration. Images and OD figures can then be exported directly to an MS PowerPoint file.

#### **Phase Analysis & Advanced Threshold**

iSolution DT conducts phase analysis on an entire image or within a specified Region of Interest (ROI) and it can allow to sort images using Gray Scale, RGB, HSB or YUV.

#### **Thickness Measurement (Layer Depth Measurement)**

Average thickness is measured automatically by defining box. The number of scan lines can be defined by users.

#### **Stereometry for Biovolume**

The 3D volume of an object is calculated by using 2D measuring parameters.

#### **Automatic Fruit Size Analysis**

It measures fruit size automatically.

#### **Perfect Focus Enhancement**

iSolution DT implements a perfect function of focus compensation irrespective of the status of lights and specimen.

#### **Grain Size Measurement**

iSolution DT provides the standard measurement environment in structure analysis of metal and materials according to ASTM E112 (2000). Both intercept lines and planimetric counting are available.

#### **Ferrite in Cast Iron**

Percent Ferrite is calculated by excluding the graphite area. Graphite can be sorted for calculation including portions with the same gray intensity value of the background pearlite.

#### **Graphite Analysis in Nodular Cast Iron**

iSolution DT may automatically generate measured data on the international standards regarding the cast iron. It provides graphite types and nodularity data according to the international standards such as ASTM A247-67 (1998), ISO 945 (1975), JIS G5502 (2001), KSD4302 (2002) with a single click.

#### **Non-metallic Inclusion Rating**

The functions in iSolution DT is intended to determine the inclusion content of steel according ASTM E45 (2002), ASTM E1122 (1996), DIN 50602 (1985), ISO 4967(1998), KSD 0204 (2002), JIS G0555 (2003). Two analysis approaches, Stereological measurements and JK inclusions ratings are implemented.

#### **Chart Navigator**

The Chart Navigator permits direct comparison between the live or captured image and a series of reference images. The user-friendly interface makes you quickly find the image you need which matches or is similar to the live or captured image out of a large number of reference images. Both the live image and the reference image can be exported to MS Excel by simple mouse click. Synchronize zoom function makes it enable to see the same view size whatever zoom ratio the live or captured image has.

#### **Adding customized modules by request**

## **System Requirements**

- PC with a Pentium-class processor; Pentium 300MMX or higher recommended
- Microsoft Windows 98SE/ME/2000/XP/Vista operating system

- 32 MB of RAM or more (128 MB recommended)
- 15 MB or more hard-disk space (50 MB recommended)
- CD-ROM drive
- VGA or higher-resolution monitor; Super VGA recommended (1024 x 768 pixel and 24 bit and more color support video card is recommended)
- Microsoft Mouse or compatible pointing device
- USB- or LPT-port for hardware key (depends on delivery).