

# ISys<sup>®</sup> 4.0

...Images to Answers<sup>™</sup>

Spectral Dimensions<sup>®</sup> is pleased to introduce Version 4.0 of ISys<sup>®</sup>.

**ISys 4.0** data analysis software sets a new standard for qualitative and quantitative analysis of chemical imaging data. Benefits include support for automation of multi-step processing routines with the click of a mouse through the AutoISys<sup>™</sup> macro editing package. In addition, greatly expanded import support for 3<sup>rd</sup> party imaging and mapping files means that **ISys** is the solution for analyzing chemical imaging data from multiple instrument platforms and modes. **ISys 4.0**: the tool you need to produce powerful quantitative results and intuitive data visualization.

## New Features:

- AutoISys - an easy to use and powerful automated data processing tool.
- Dramatic improvements in speed and data handling capacity.
- Intuitive data visualization aids, including binary visualization.
- Better support for multivariate analysis.
- Clustering interface and new algorithms, including K-means and K-Harmonic Means.
- New import filters for a variety of different data formats, including **Horiba Jobin-Yvon<sup>™</sup>**, **Renishaw's WiRE<sup>™</sup>** and **EDAX<sup>™</sup>** Spectrum (.spc) data files.
- Advancements for more complete support of **Kaiser Optical Systems, Inc.** HoloGRAMS<sup>™</sup> files.
- Support for TOF-SIMS Mass Spectral data handling and plotting capabilities.
- Expanded documentation, including updated application tutorials and work flow diagrams.

## ISys 4.0 Supports:

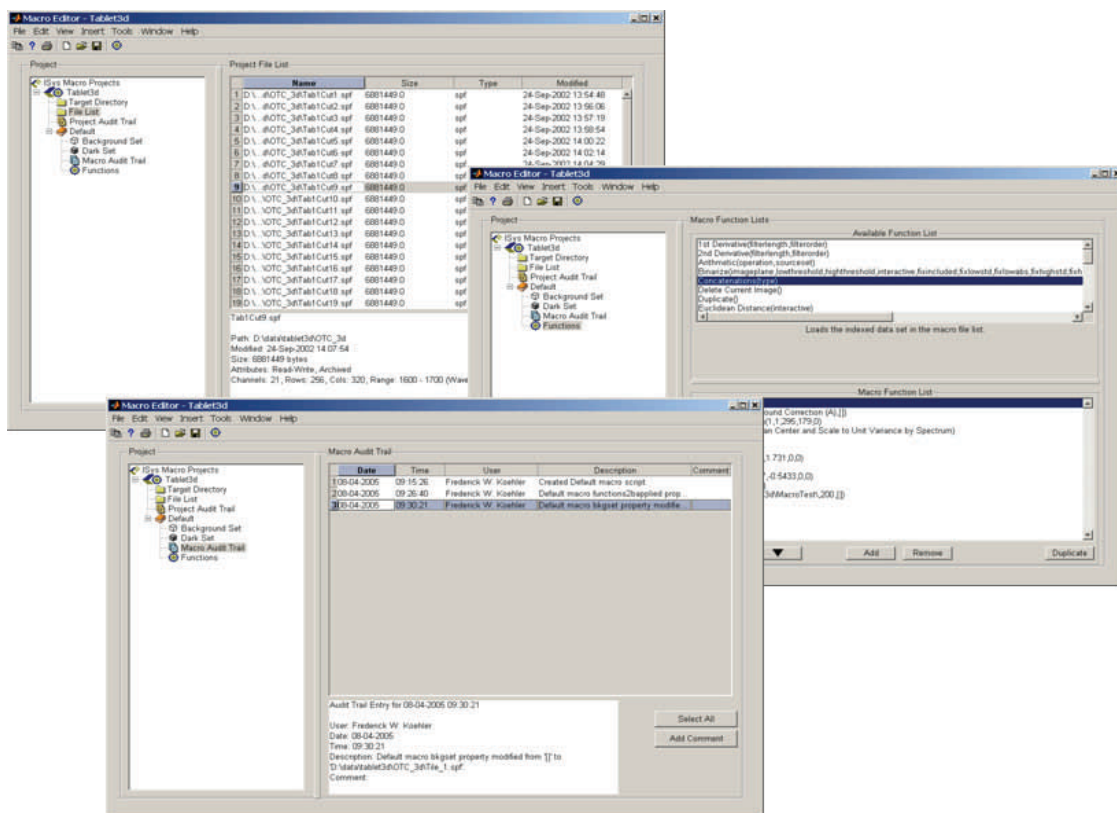
- Native data captured with Spectral Dimensions Sapphire<sup>®</sup> or Matrix<sup>™</sup> NIR Chemical Imaging Systems.\*
- Raman data from many 3<sup>rd</sup> party imaging or mapping systems.
- Mid-infrared data from many 3<sup>rd</sup> party imaging or mapping systems.
- A variety of data types consisting of a series of digital images representing spectral information.

*\*ISys 4.0 will NOT support near-infrared data collected with third party spectrometers.*

★ New Feature!

# AutoISys™ - Macro Editor

AutoISys - the newly developed macro editor included with **ISys 4.0** - automates the most commonly used data processing functions to routinely and reproducibly execute extensive multi-step processing methods for any number of data sets. Batch processing saves time and guarantees that each data set is identically processed, cross-platform and across all users. AutoISys also provides an easy and automated way to develop and optimize new methods - a series of data processing schemes can be tested on a single data set, and the results compared.

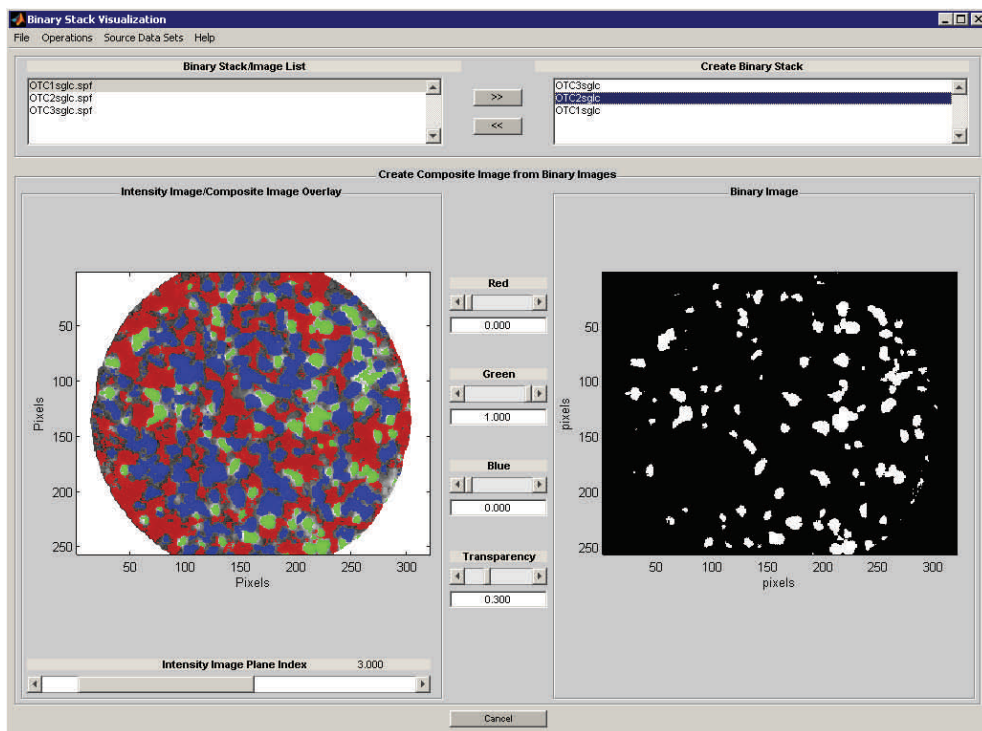


## AutoISys Window

Data processing methods developed in **ISys** can be saved as AutoISys Projects for routine application and deployment to other systems and users. An AutoISys Project is created using an intuitive interface, first by selecting a series of data sets to be processed, and then by defining the desired data processing steps. A commonly used series can be saved as a Macro, and a Project can contain multiple Macros. This building block approach saves time as users standardize on, for example, specific pre-processing methods. If saved as a Macro, an entire series of pre-processing steps can simply be added to the next Project as a single unit.

21 CFR part 11 compliance of the core **ISys** product is maintained, including an audit trail within the Project. All necessary record-keeping and tracking requirements are met.

# Binary Stack Visualization



The Binary Stack Visualization Window

★ New Feature!

Binary Stack Visualization is just one way **ISys 4.0** can represent the spatial distribution of chemical ingredients. Overlaid binary images help easily visualize the spatial interrelationship of sample components. Each chemical species can be assigned to a particular color, and the degree of transparency varied to provide an image of a sample that is easy to interpret. These color composite images are overlaid on top of a gray scale intensity image to help keep track of components.



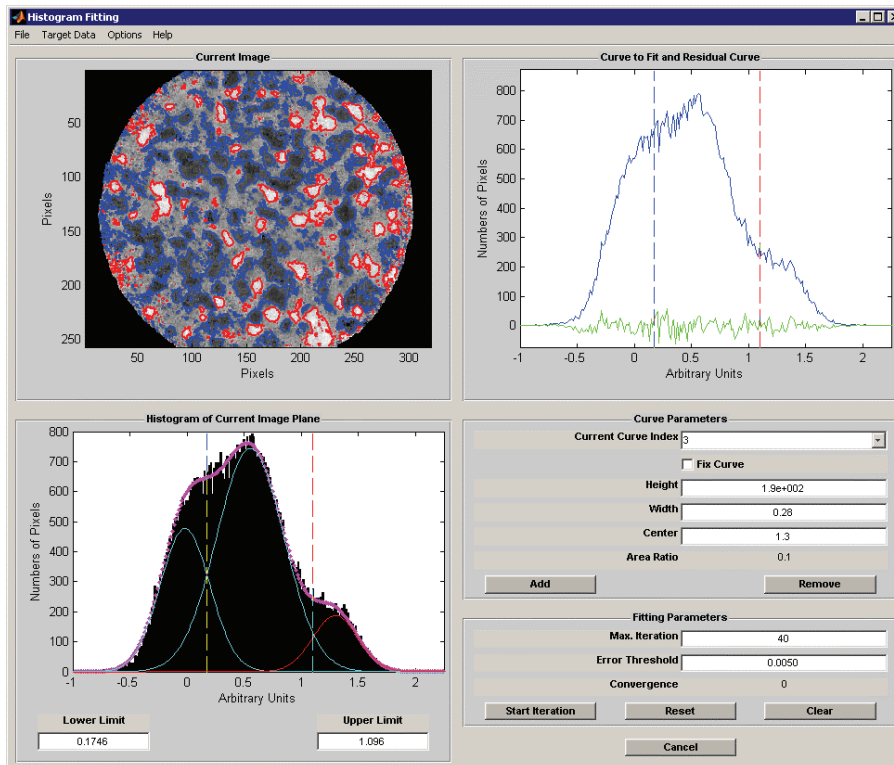
# Histogram Fitting

The Histogram Fitting Window

★ New Feature!

Contrast in a chemical image is mirrored by the appearance of multiple distributions in the histogram. These distributions have the potential to offer tremendous statistical information, but often partially overlap.

The Histogram Fitting function - new to **ISys 4.0** - separates and calculates statistics of the individual components, providing a wealth of information on spatial distribution and heterogeneity for each chemical species.





# Benefits of ISys 4.0

**ISys 4.0** includes all the tools you need to process chemical imaging data, to understand samples in spectral and spatial dimensions simultaneously and easily, and with AutoISys, automate processing for routine analysis. ISys provides powerful means to:

- Intuitively understand samples through images, quantitative and statistical data.
- Rapidly develop data analysis methods from friendly user interfaces.
- Save, store and reuse data analysis methods for simple deployment with multiple users.
- Perform complex processing and analysis tasks on many data types.

## About Spectral Dimensions

Spectral Dimensions, Inc. offers analytical instruments, software and consulting services to support chemical imaging and high-throughput chemical sensing applications. Our **ISys** software platform is the industry standard for analysis and visualization of chemical imaging and mapping data. We deliver cutting-edge solutions to provide insight into sample characteristics.

Backed by a strong technical team with a wealth of experience in basic research, applications development, instrumentation and product development, Spectral Dimensions - which is privately held - has established itself as the leader in spectroscopic chemical imaging.

## How to Purchase or Upgrade:

To purchase or upgrade to **ISys Version 4.0**, please contact your sales representative at [sales@spectraldimensions.com](mailto:sales@spectraldimensions.com), or 301-260-0290 x115.

**Email [sales@spectraldimensions.com](mailto:sales@spectraldimensions.com) for more information. Or call us today!**



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