Technical Information

- Platform independent - runs on Windows®, Linux and Mac operating systems
- 32bit and 64bit OS support
- Support for multiple CPU cores
- Support for hyperspectral images with >1 Megapixel spatial resolution (64bit OS), <0.2 Megapixel spatial resolution (32 bit OS)
- 30-day fully functional trial version available for download after registration at evince.umbio.com

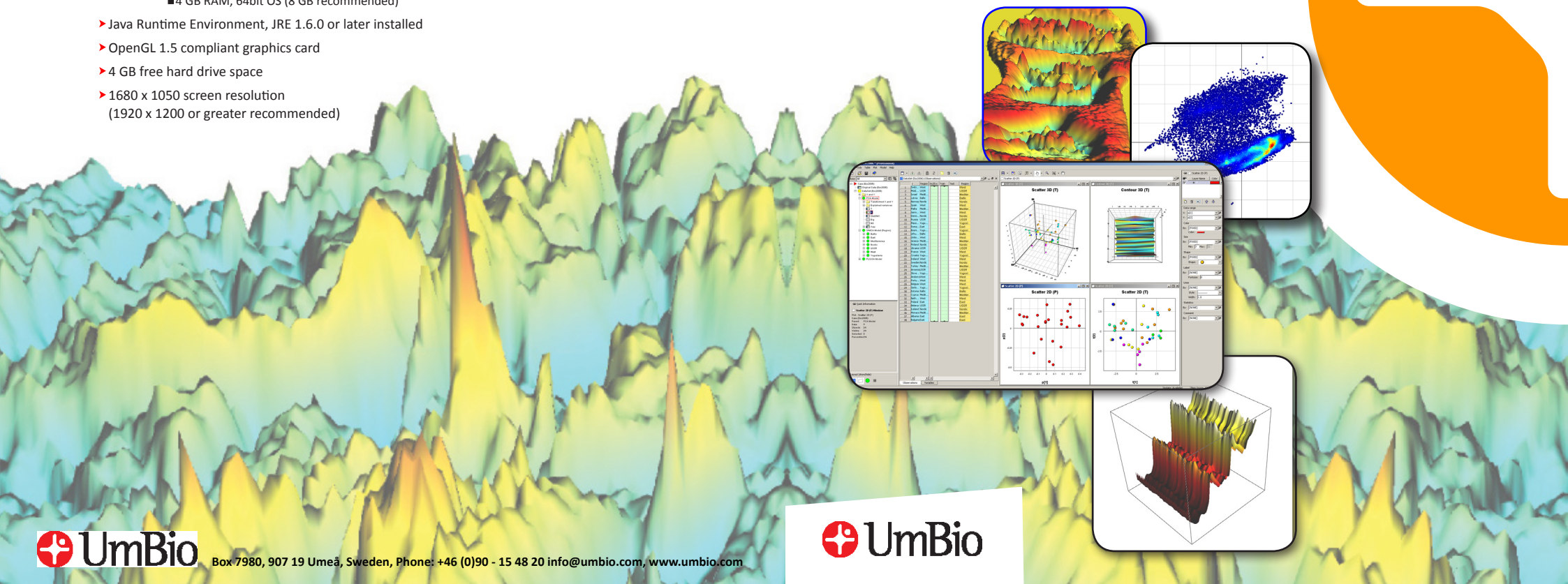
System Requirements

- Supported operating systems
  - MS Windows® XP/Vista/7, 32 & 64bit
  - Linux, 32 & 64bit
  - Mac OS X, 32 & 64bit
- Intel or AMD dual-core CPU (quad-core CPU recommended)
- Minimum system memory requirements
  - 2 GB RAM, 32bit OS
  - 4 GB RAM, 64bit OS (8 GB recommended)
- Java Runtime Environment, JRE 1.6.0 or later installed
- OpenGL 1.5 compliant graphics card
- 4 GB free hard drive space
- 1680 x 1050 screen resolution (1920 x 1200 or greater recommended)

Image Evince

The Complete Software Solution for

Hyperspectral Image Analysis



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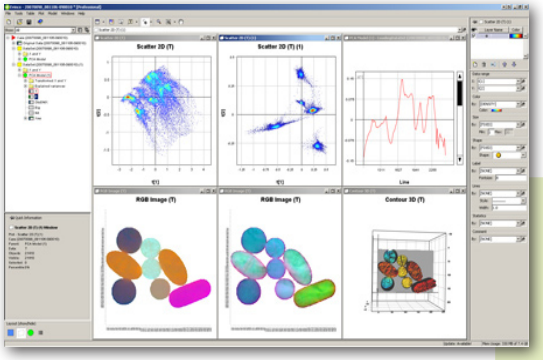
UmBio

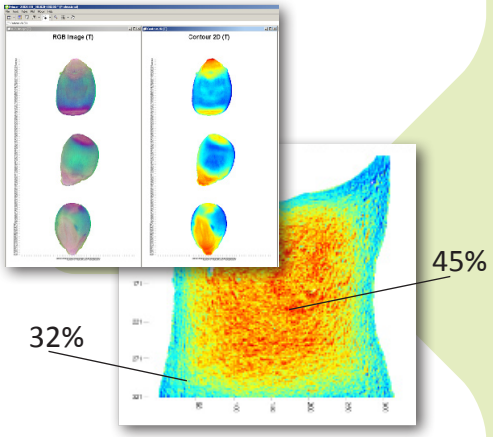
Evince Image — The Concept

Evince Image is a modern software for exploration of hyperspectral image data. It has a graphical user interface, which allows import of most common image formats. With powerful analysis techniques, the user can efficiently extract relevant information from the image. A wide range of visualizations are available, both for raw and processed data. A visible interaction between data and graphics, makes the exploration fast and effective!



Main Functionality

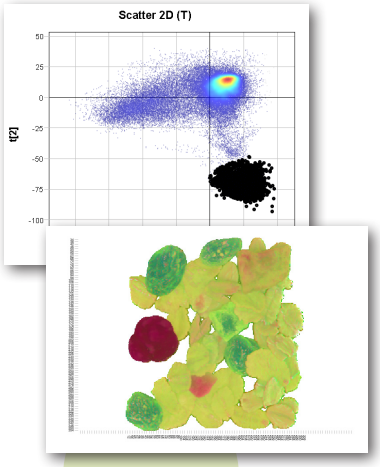
- Import of a large variety of image formats including Envi, Mat, SPF, JPG, TIF, PNG etc.
- Full exploration of hyperspectral image data and spectral analysis of each pixel
- Compression of hyperspectral image data with techniques such as PCA and PLS into multivariate models
- Visualizations available for raw spectra, pre-processed spectra, entire measured channels and modeled image data
- Visible interaction between spectral data, model components and data tables
- Classification and quantification of image content
- Segmentation of image content, for example background removal



Applications

Evince Image can be used in a wide variety of applications for research as well as for laboratory routine analysis. Here are some verified applications:

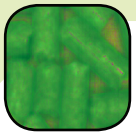
- Prediction of moisture distribution in bread
- Quality control of cheese
- Moisture prediction of incoming timber
- Multivariate calibration
- Freshness control of fruits and berries
- Classification of nuts
- Assessment of glue hardening
- Discovery of adulteration in spices



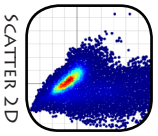
Data Processing

- Automatic unfolding of 3D image data
- Principal Component Analysis, PCA
- Partial Least Squares regression, PLS
- Partial Least Squares Discriminant Analysis, PLS-DA
- Spectral Angle Mapper, SAM
- Spectral pre-processing:
  - Multiplicative Signal Correction
  - Savitzky-Golay
  - 1st and 2nd order Differentiation
  - Standard Normal Variate
- Prediction table for:
  - Classification
  - Quantification
- Classify unknown image data using saved calibration models
- Particle size and distribution

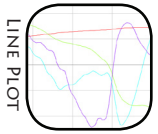
Visualizations



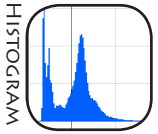
Utilize the RGB image for viewing raw image data, PCA scores or response matrices.



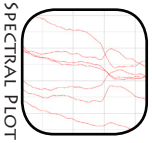
Find image areas of interest. The density coloring is useful for discovering main features in the image.



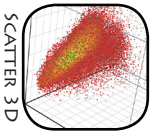
Analyze the loadings of your multivariate model. Discover important spectral bands, which have high impact on the model.



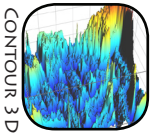
Use the histogram for viewing the distribution of a vector or matrix.



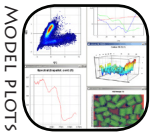
View the spectra of selected points in score plots or RGB images. Both raw spectra and transformed spectra can be shown in this way.



Find pixels of similar spectral properties while working in three dimensions. It is fully rotatable in real-time.



View any two-dimensional data in three dimensions using the Contour 3D plot. It is fully rotatable in real-time.



Create a series of useful plots for image analysis in a snap. The pre-defined model plots offers quick access to your image data.