


All-In-One Multivariate Data Analysis and Design of Experiments Package


The Unscrambler® 

Process Analytics • Quality Control • Product Development

The Unscrambler® has set the standard as an all-in-one Multivariate Data Analysis (MVA) and Design of Experiments (DoE) package for many years. It has provided innovative data visualization and predictive modeling solutions to R&D scientists and process engineers in the application areas of food & beverage manufacturing, pharmaceutical, chemical and energy (oil & gas) products.

CAMO Software's commitment to the advancement of technological innovation has resulted in the fully redesigned The Unscrambler® X, the first release of the new Generation X (Gen X) suite of products. This new suite is based on CAMO Software's proven and trusted The Unscrambler® technology and offers improved calculation efficiency and performance, scalability, flexibility and ease of use to its large user base across 47 countries.



The Unscrambler® 

Flexible | Adaptable | Multivariate Analysis Technology



The Unscrambler® X

The Unscrambler® X is a fully reengineered version of The Unscrambler® and features an enhanced user friendly interface, superior graphics, new state-of-the-art methods and an adaptable approach to Multivariate Data Analysis (MVA) and Design of Experiments (DoE). This market leading software is extensively used across a wide range of research and industrial applications including, process understanding, rapid quality monitoring, product formulation, metabolomics and sensory science. Specific examples include, raw material identification, demand driven formulation, real time process & quality control and faster time-to-market R&D projects. All of these result in cost minimization and improved ROI.

- Project Management
- Exploratory Data Analysis
- Regression / Classification
- Design of Experiments
- Data Pretreatments
- OPC ready

Flexible



- ▶ Flexibility to organise your data & analyses into projects
- ▶ Flexibility with licensing options
- ▶ Flexible in customising The Unscrambler® with plugin options

Adaptable



Adaptable to the needs of the many different scientific disciplines through the incorporation of application specific plugins.

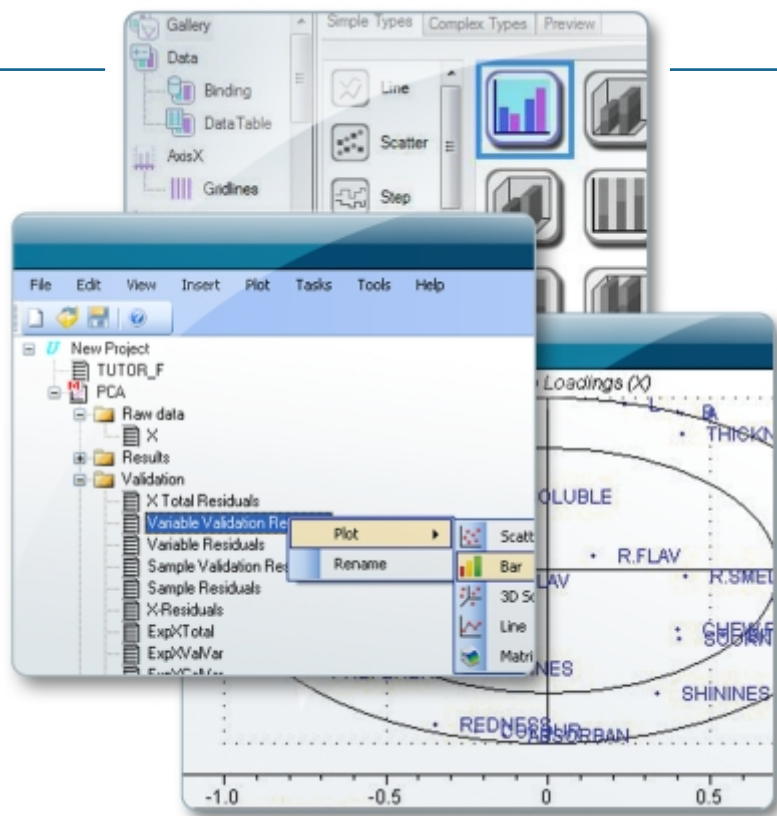
New & improved algorithms



The Unscrambler® X features recent developments such as support vector machine classification and L-PLS, the classical hierarchical cluster analysis and linear discriminant analysis, which widen our scope to metabolomics, sensometrics and process monitoring.

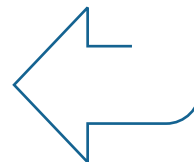
**The Unscrambler®
is used by over
3000 companies,
300 universities and
25000 users in
47 countries.**

“Our clients tell us The Unscrambler is extremely easy to use compared to other products on the market and provides them with exactly what they need...”



what's new

- ▶ Project based data organisation
- ▶ Improved data import of Excel and other popular formats with previews
- ▶ Interactive pretreatments
- ▶ Superior data visualization
- ▶ Improved security using windows domain authentication
- ▶ New algorithms like L-PLS, HCA, SVM and LDA
- ▶ Improved calculation efficiency & performance
- ▶ Basic statistical tests
- ▶ Report generator



Project Based Data Organization >>

- ▶ Intuitive workflows
- ▶ Tree structure
- ▶ Optimised data organisation

The user interface has been redesigned to help organise data and analyses into projects. All data sets, analysis results and associated plots are organised in a single project and displayed as nodes within a tree structure to provide simpler and faster ways to browse the right information and use it.

Superior Data Visualization >>

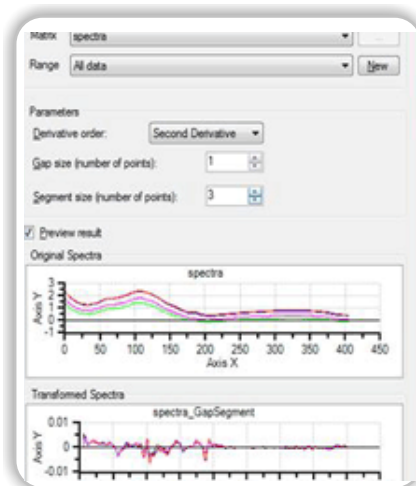
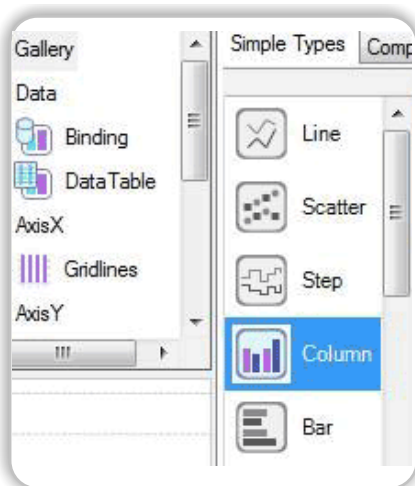
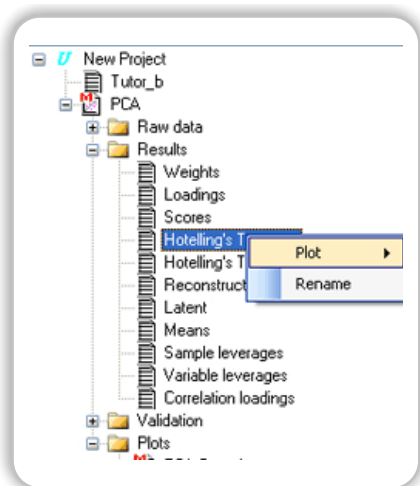
- ▶ Customisable plot graphics
- ▶ Complete annotation tools
- ▶ Easy to reuse in presentations

The Unscrambler® X provides a whole range of graphical tools to get the best visual representation of your data. You can style charts and draw lines, shapes and add text to annotate them. Copy and paste plot graphics into documents or save in common picture formats.

Interactive Pretreatments >>

- ▶ Easy transform options
- ▶ Real time visualization
- ▶ Modified data in new matrix

Finding appropriate transformation parameters can be time-consuming. Real-time preview of results will help you find the right parameters in a shorter time, as the pretreatment is being performed. A new matrix is generated, keeping the original data intact and allowing comparison and reversion.



Industry applications

Pharmaceutical and Biotechnology

- ▶ Use designed experiments to develop slow release or other types of formulation or bring generic products to market in a smaller time frame
- ▶ Classify raw materials and better understand their properties using exploratory data analysis
- ▶ Incorporate The Unscrambler® models with NIR spectrometers to determine end points of blending, drying and coating processes
- ▶ Use The Unscrambler® developed models with analytical laboratory based instruments to determine the moisture or active content in lyophilised or solid dose products
- ▶ MVA and DoE form one of the four key aspects of the Process Analytical Technology (PAT) initiative. Determine the parameters that are critical to quality with The Unscrambler® and build your processes using Quality by Design (QbD)



Energy

- ▶ Use multivariate models and NIR spectroscopy to monitor gasoline blending operations
- ▶ Design new materials for wind generators and other renewable energy applications
- ▶ Monitor coal quality online using multivariate models incorporating infrared spectroscopy and process equipment outputs
- ▶ Use Principal Component Analysis (PCA) for locating new oil reserves based on geochemical data

Chemical

- ▶ Optimise paint and other polymer based products and processes with process-mixture designs
- ▶ Design new semi-conductor materials
- ▶ Use process outputs and other measurement equipment to monitor the quality of fertiliser production with multivariate process models
- ▶ Improve paper and pulp operations by measuring critical raw material feeds and liquors
- ▶ Use predictive modelling with process spectrometers to assess quality attributes of high value commodities during the progress of chemical reactions

Food and Beverage

- ▶ Formulate new food and beverage products using designed experiments according to consumer segment requests
- ▶ Target key markets using cluster analysis and consumer segmentation
- ▶ Use The Unscrambler® to
 - Optimise baking times for pastry products
 - Blend the best combination of wines based on preference and cost
 - Improve the look and texture of new and existing products based on trained sensory panel evaluations
 - Reengineer competitive products.

The Unscrambler® 

Free Trial

Download a fully functional 30-day trial version of The Unscrambler®. To get started using the trial product visit unscrambler.camo.com



www.camo.com

CAMO Software

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