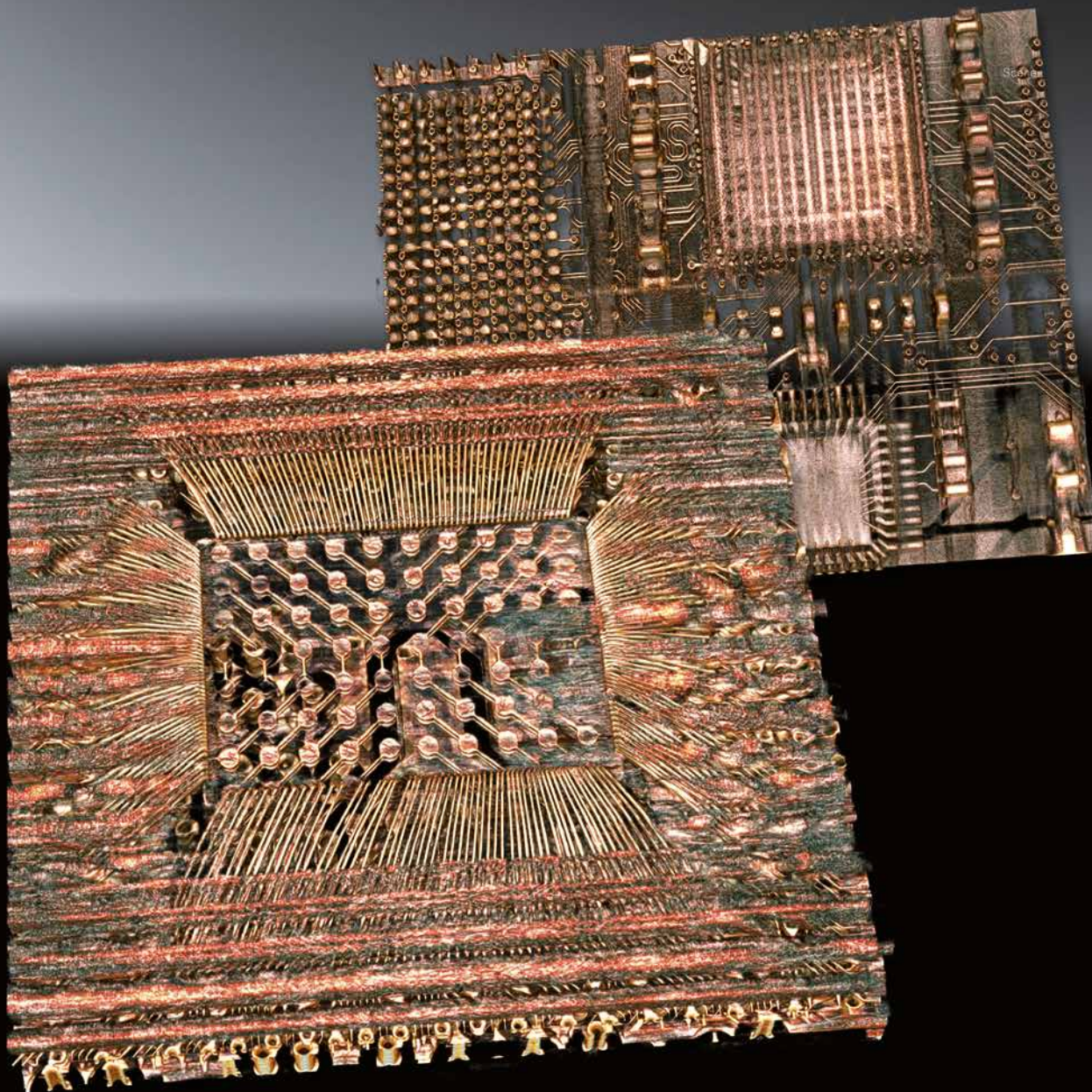


VGStudio 2.2



THE LEADING APPLICATION SOFTWARE FOR THE VISUALIZATION OF
CT/VOXEL DATA



WHY VGSTUDIO EXCELS

VGStudio is the affordable entry level product to the world-wide standard of industrial voxel data processing and visualization. *VGStudio* is renowned for an unsurpassed rendering quality that enables you to visualize even large CT/voxel data sets on standard PC hardware. The software works directly on voxel data, which have been generated by reconstructing the X-ray projection images.

VGStudio can be used for visual quality inspection in industrial applications, e.g. in the electronics industry. But *VGStudio* is not restricted to industrial usage. For the advanced visualization of data the software also has a proven track record in different fields of academic research such as archaeology, geology and bio sciences/life sciences.

VGStudio is available as node-locked or dongle license and comes in six language localizations (English, German, French, Japanese, Chinese and Korean, at additional charge, where applicable).

A GPU-accelerated 3D CT Reconstruction Module option can also be purchased, making *VGStudio* a complete and affordable high end CT reconstruction and visualization package.

Find a sample of the features of *VGStudio* below:

VISUALIZATION

- 3D visualization even of very large CT data sets – with almost no limit on data quantity. Today, data sets of 80 GB or more can be visualized on off-the-shelf 64 bit PC hardware.
- real-time ray tracing for a photo-realistic look
- combined visualization of voxel and polygon data
- arbitrary orientation of 2D slices
- 2D slice rotation view around a customizable axis
- gray value classification of data set
- a wide variety of 3D clipping options

Non-planar views and thick slab option

- non-planar views for 2D images based on freeform structures and following arbitrarily curved axes that can be unrolled or projected as a 'flat' 2D view (e.g., view a cylindrical object as a stack of 'unrolled slice images')
- a 2D window thick slab option for viewing a stack of slice images with user defined thickness in minimum, maximum or averaged projection mode (ideal e.g., for electronics applications)

Bookmarks

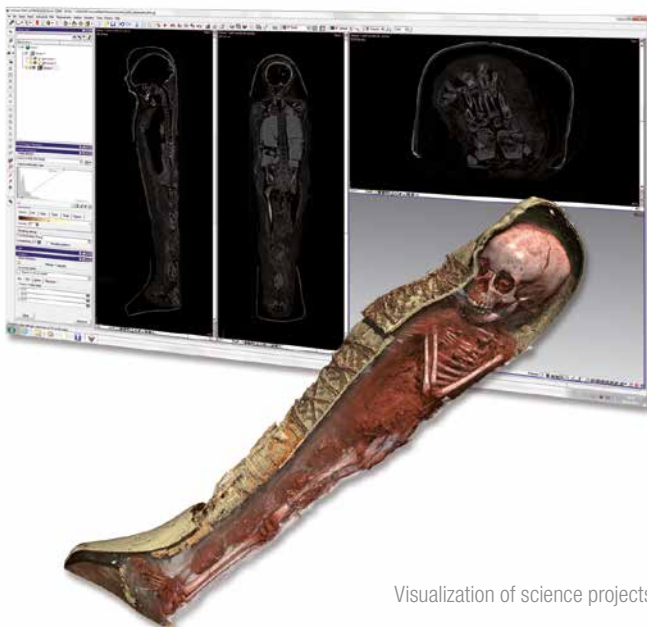
- bookmarks allow you to present a set of CT data in an organized way to your colleagues and customers
- in order to create a new bookmark click on the bookmark icon at any point of your visualization process
- bookmarks are indispensable for organizing and switching between different views within your project

Tools for easy alignment of data sets

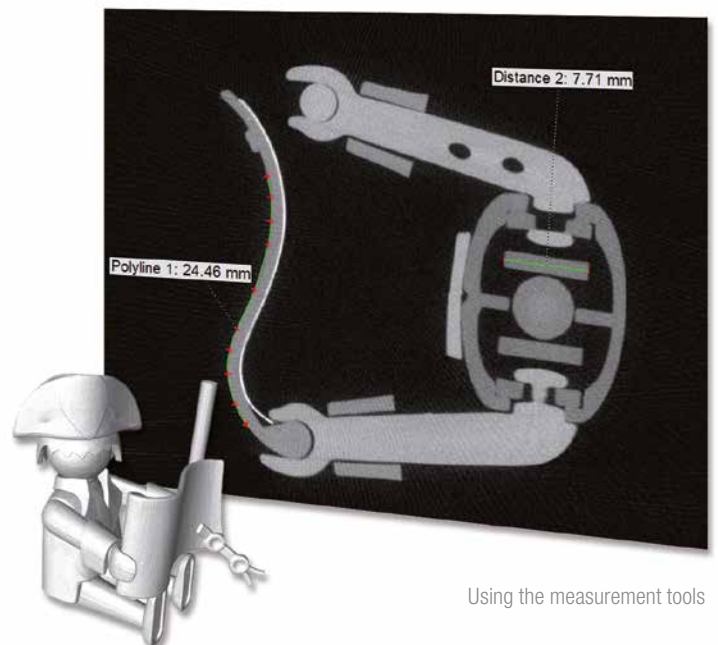
- simple 3-2-1 registration
- simple registration

MEASUREMENT TOOLS

- distance measurement
- polyline length measurement
- angle measurement
- snapping modes to the surface, for an easy handling of measurement tools
- powerful reporting tool for the generation of detailed reports containing user-defined information on every measured feature



Visualization of science projects



Using the measurement tools

VIDEOS/ANIMATIONS

- create impressive animations of your volume data with just a few clicks using our completely redesigned animation tool
- the so-called Simple Keyframer can be used to generate stunning movies by automatic interpolations of 'screenshot'-style states, so animations can be built without previous animation knowledge
- export your animation in one of the numerous formats that are available either as movie or as image stack

DATA IMPORT/EXPORT

- import data from all major industrial CT systems
- import of all standard image formats (e. g. BMP, JPG, JP2, RAW, TIF) and DICOM and DICONDE data
- the import wizard allows large data sets to be reduced in size (reduction of bit depth, import of partial volumes etc.) for use on less powerful computers

VIEWING OF ANALYSIS DATA

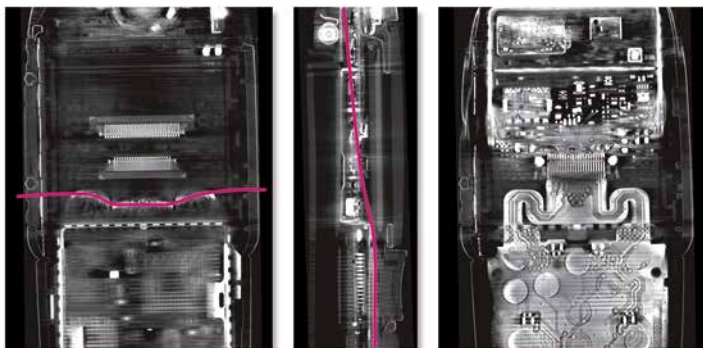
- all analysis data generated with industry leading *VGStudio MAX* can be displayed
- full reporting capability for analyses generated with *VGStudio MAX*

OPTIONAL CT RECONSTRUCTION MODULE

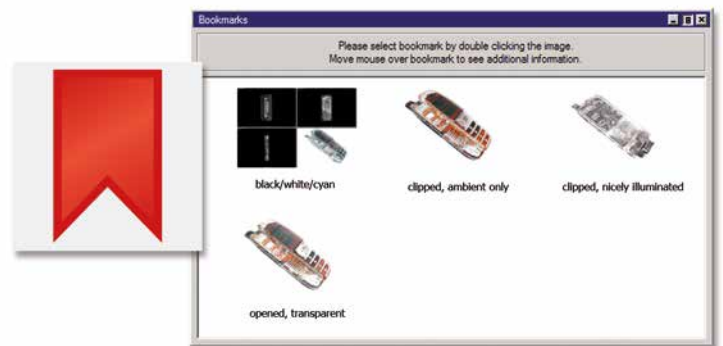
- ultra fast GPU-accelerated CT reconstruction for CT users and OEM customers
- reconstruction even of very large data sets (e. g. 6000 x 6000 x 2048), only limited by the PC hardware used
- automatic correction of scan geometry
- artifact-free ROI reconstruction
- output directly to VG projects
- cone beam, fan beam, parallel beam, planar and helical CT
- beam hardening correction, optional Iterative Artifact Reduction (IAR)* beam hardening correction
- real-time single slice preview
- performance mode accelerates reconstruction time of very large data sets

UPGRADE CAPABILITIES

VGStudio can be expanded with your growing need for advanced CT data analysis tools: It can be upgraded to the full version of *VGStudio MAX*, our flagship application that you can further extend with available add-on modules (Nominal/Actual Comparison, Coordinate Measurement, Wall Thickness Analysis, Porosity/Inclusion Analysis, Enhanced Porosity/Inclusion Analysis, Fiber Composite Material Analysis). Ask us for a quote!



Example for the use of non-planar view. Left and middle: regular slice view, the line reflects the path of the non-planar slice, right: non-planar view



Bookmarks for specific points of interest to organize and easily disseminate your projects



Simple Keyframer for the creation of stunning animations or image stacks

FEATURE COMPARISON

VGStudio can be upgraded to *VGStudio MAX* and can therefore 'grow' with the users' requirements for advanced analysis tools.

Note: Projects created with *VGStudio* can be directly opened in *VGStudio MAX* and vice versa.

FEATURES	VGSTUDIO MAX	VGSTUDIO
VISUALIZATION		
Volume rendering	X	X
Isosurface rendering	X	X
Polygon rendering	X	X
Creation of light sources	X	X
Clipping of objects	X	X
Non-planar view	X	X
Thick slab option	X	X
FILE IMPORT/EXPORT		
Open VGL/VGI file	X	X
Save VGL file	X	X
Import of image stacks and volume data	X	X
Pack and Go functionality	X	X
CT Reconstruction	M	M
Surface extraction (STL)	X	–
Handling of multiple data sets	X	X
OBJECTS		
Define coordinate systems	X	P
Alignment in coordinate systems	X	P
Surface determination	X	–
Simple registration of objects	X	X
Advanced registration of objects	X	–
SEGMENTATION		
Generation of Regions of Interest (ROIs)	X	–
Set render settings for ROIs	X	P

X = available, P = partially available, M = only with add-on module, available at additional cost, – = not available

FEATURES	VGSTUDIO MAX	VGSTUDIO
ANALYSES		
Histogram analysis	X	–
Connected component analysis	M	–
Measurement annotations	X	P
Porosity/Inclusion Analysis	M	–
Nominal/Actual Comparison	M	–
Wall Thickness Analysis	M	–
Coordinate Measurements with GD & T functionality	M	–
PRESENTATION OF DATA AND RESULTS		
Generation of analysis reports	X	P
Saving of images and image stacks	X	X
Creation of 2D and 3D animations in various movie formats	X	X
Simple Keyframer for easy video creation	X	X
Classic Keyframer with advanced animation options	X	–
INSTRUMENTS		
Distance tool	X	X
Create indicators	X	X
Angle tool	X	X
Polyline length tool	X	X
Min/Max distance tool	X	–
3D navigator cursor	X	X
Automatic snapping of instruments to object surface	X	P
MACRO/BATCH PROCESSING		
Recording of macros	X	–
Batch processing	X	–

PC HARDWARE REQUIREMENTS

- Windows 64 bit, Linux 64 bit or MAC OS X operating system
- about 500 MB + user data of disk space for software installation
- Intel or AMD multi-processor/multi-core system
- more than 4 GB of RAM, depending on the size of the data sets to be processed
- high-end NVIDIA or ATI OpenGL graphics board

We will gladly assist you in choosing the software and hardware components that will best suit your application. Contact us!



VOLUME GRAPHICS GMBH

Wieblinger Weg 92a | 69123 Heidelberg, Germany
 Phone: +49 6221 73920-60 | Fax +49 6221 73920-88
 sales@volumegraphics.com | www.volumegraphics.com