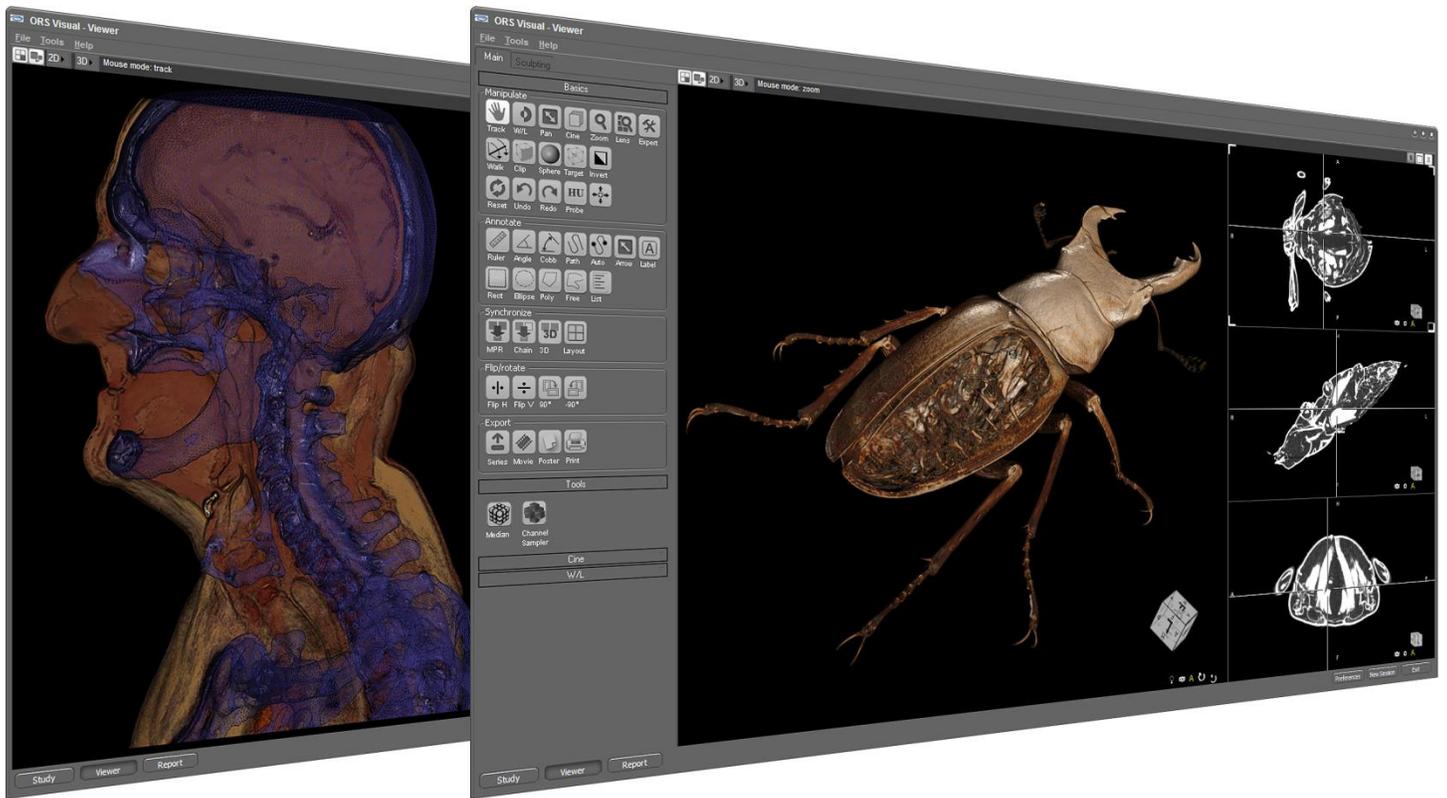


ORS Visual SI

High performance 3D software for scientific investigations



Data import

- DICOM, RAW, GRIB, netCDF, TIFF, BMP, NIFTI, Analyze, JPEG, and other file formats.
- Dataset size limited only by the available system memory.
- Import and play 4D data sequences manually or in loop mode.

Visualization

- Configurable view layouts and presets.
- MPR, oblique, double oblique.
- Curved planar reformats (CPR) and straightened views extracted from a path.
- Real-time 3D volume renderings with transparency, texture, and lighting with 32-bit color depth.
- MIP, mIP, and average intensity projections.
- Fly-through mode.
- Volume and mesh picking in 2D and 3D.
- Multi-modality fusion with automatic and manual registration.
- Support for 3D displays and autostereoscopic monitors that do not require glasses as well as multi-monitor setups.

ORS Visual SI is an advanced 3D analysis software for investigating scientific, engineering, and biomedical data acquired by CT, micro-CT, MRI, PET, microscopy, and other modalities. Featuring an extensive set of tools and plug-ins, ORS Visual SI facilitates the visualization, transformation, manipulation, and analysis of large volumetric datasets using standard PC hardware and GPU shader technology.

Designed for researchers in the fields of material and life sciences, engineering, geology and petrography, nanotechnology, and the environment, ORS Visual SI provides qualitative and quantitative data for material characterization, surface analysis, process evaluation, quality control testing or any analysis function that requires a high-degree of accuracy.

Using advanced visualization techniques and state-of-the-art volume rendering, ORS Visual SI provides unparalleled insight into the details and properties of 3D structures originating from scans of objects and data types such as solid models, wireframes, computer-aided design (CAD) files, and meteorological data (GRIB, netCDF). ORS Visual SI includes 2D and 3D image filtering modules, thresholding, and automated or assisted segmentation with 3D surface reconstruction for the visualization and measurement of properties, including areas, volumes, counts, distributions, and orientations.

Enjoy state-of-the-art features at a fraction of the cost of similar systems.

ORS Visual SI

Scientific visualization and analysis solutions

Manipulation and transformation

- Basic tools include Track, Window Level, Pan, Cine, Zoom, Walk, Target, Invert, and rectangular and spherical clip planes.
- Median, Gaussian, Fourier transform, and editable convolution filters.
- Combine linear and volumetric renderings in a single click.
- MATLAB and IDL connectors.

Measurement and feature extraction

- Basic tools for measuring distances, angles, Cobb angles, and paths.
- Advanced tools for intensity profiling along paths and linear measurements.
- Rectangular, ellipse, polygonal, freehand selection tools.
- Segmentation tools include 2D/3D brush, active contour, point-and-click, grow, active contour, and others.
- Hide, highlight, subtract, extract multiple regions and apply operations such as dilate, erode, clear.
- Statistical analysis of 2D and 3D regions.

Data export

- Capture screenshots, export series, create high-resolution custom-size images for printing.
- Create AVI movies and Flash animations from camera sweeps, user-defined sequences, or from a fly-through.
- Burn CDs or DVDs directly from the application.

Software development kit (SDK)

- Full DICOM support for 2D, 3D, 4D images.
- Structured and unstructured grids, polygons.
- Event handling available through the API.
- Supports C/C++, .Net, Java, Fortran, VB, Delphi, 4D, IDL, VTK/ITK, and others.

System requirements

- Pentium 4, 1.2 GHz or AMD 1200+ CPU.
- 512 MB RAM.
- Graphic board that supports Pixel Shader v2.0 and above.
- Windows XP, Vista, 7 (32/64-bit versions).

ORS Visual SI is maintained by a highly qualified team dedicated to providing exceptional training, technical support, and product documentation.

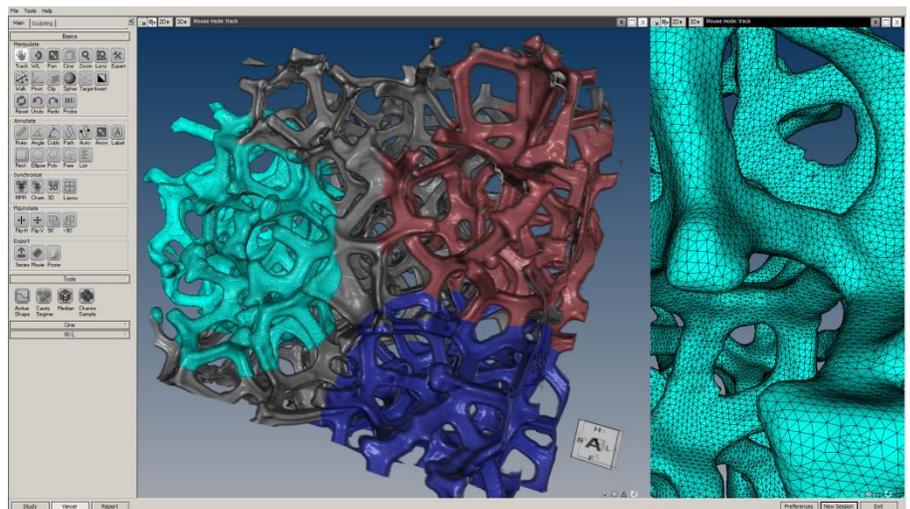
Superior performance

With high display speeds and the ability to handle large datasets, ORS Visual SI seamlessly delivers advanced 3D imaging and analysis techniques that were once restricted to costly high-end workstations.

Optimized rendering presets, in which light emission and absorption parameters are automatically assigned to each point of a volume, combined with high order gradient calculations and other image enhancement techniques, allow ORS Visual SI to efficiently produce realistic and highly precise volume renderings. Underlying structures can be revealed and analyzed with the intuitive image manipulation and feature extraction commands. Other standard tools provide oblique and double-oblique views, curved planar reformats, volume clipping with planes and spheres, volume sculpting, and regions of interest. In addition, the applications' scene graph architecture makes it easy to combine multiple modalities, multi-channel data, as well as volumetric and polygonal data in the same scene.

Flexible and configurable solution

ORS Visual SI is a configurable solution that allows you to select the extensions that provide the best framework for your needs. Choose from plug-ins that allow you to control the appearance of a volume and to register and compute deviation maps. ORS Visual SI also supports regular and unstructured surface meshes with a number of mesh plug-ins and advanced editing tools to create a region of interest from a mesh and vice-versa.



Software development kit

With the ORS software development kit (SDK), research centers and third-party developers can leverage ORS Visual SI's core technology and quickly build specialized workflows and visualization plug-ins. ORS Visual SI can be integrated as an ActiveX component in Windows based applications.



Object Research Systems is the leader in advanced visualization solutions

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