

Fig. 1: Blue Marble Next Generation © NASA

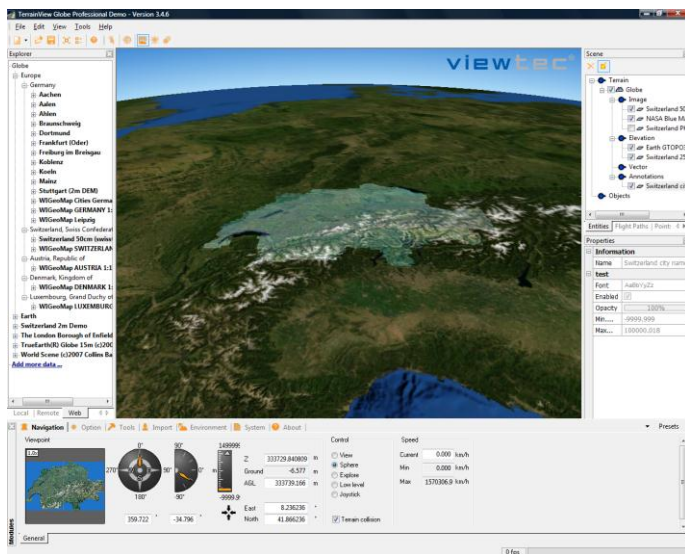


Fig. 2: Orthomosaic 50 cm & Blue Marble Next Generation © swisstopo, NASA

TerrainView-Globe™ – Real-time Earth GIS and interactive 3D Visualization

Create and visualize your 3D landscape in less time and in high quality with TerrainView-Globe - the tool of choice for out-of-the-box 3D visualization for urban planning, simulation and training, civil engineering, defence industry, oil and gas industry, and film industries (Fig. 1).

With the easy-to-use features of TerrainView and additional capabilities designed specifically for professional GIS and 3D simulation users TerrainView-Globe™ lets you display and analyze the whole Earth in 3D.

TerrainView-Globe can import and visualize unlimited GIS datasets in real-time. The data will automatically be cached to reach maximum render performance. TerrainView-Globe projects all data to the globe surface (Fig. 2).

Professional & Enterprise License

TerrainView-Globe™ Professional is for small and medium sized organizations. These organizations are present worldwide to realize superior projects.

Markets: Urban Planning, Civil Engineering, Oil and Gas Industry, Television Broadcasting, Geo-data Industry

TerrainView-Globe™ Enterprise is a product bundle which includes:

- TerrainView-Globe Enterprise
- TerrainView-Video
- TerrainView-RemoteControl
- TerrainView-CMAX

Markets: Government and Public Sector Organizations, National Geo-Information Organizations, Homeland Security, Military and Defence, Land Use Planning, Tourism, Nature Conservation, National and Multinational Enterprises in the fields of Engineering and Construction, Energy, Telecommunications, News Broadcasting, Aviation and Simulation



Terrain Builder

TerrainView-Globe™ offers space-to-street-level Geo-Information in superior rendering quality. Geodata is pre-processed using a spherical tiling system. Tiles are filtered into multiple resolution levels for use in high-quality 3D perspective views of the Earth. These views can be combined with a variety of graphics and raster map overlays (Fig. 3), texts, 3D building and other 3D models to produce still images, motion picture sequences or interactive 3D animations.

Geodata Formats

TerrainView-Globe™ supports the following GIS formats:

Digital Elevation Model (DEM)

- Arc/Info ASCII Grid
- Arc/Info Binary Grid (.adf)
- USGS SDTS DEM (*CATD.DDF)
- TIFF / GeoTIFF (.tif)
- Military Elevation Data (.dt0, .dt1)
- USGS ASCII DEM (.dem)
- Atlantis MFF
- VTP Binary Terrain Format (.bt)

Raster Image Formats

- TIFF / GeoTIFF (.tif)
- Erdas Imagine (.img)
- JPEG2000 (.jp2, .j2k)
- JPEG JFIF (.jpg)
- Multi-resolution Seamless Image Database (MrSID)

Vector and Annotation Formats

- Arc/Info Binary Coverage
- ESRI Shapefile
- Mapinfo File
- Microstation DGN
- OGD I Vectors
- SDTS
- UK .NTF
- U.S. Census TIGER/Line

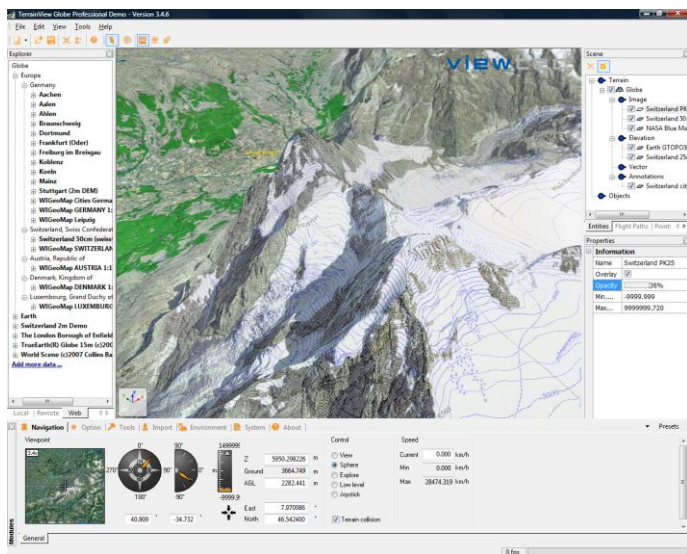


Fig. 3: Geodata blending: SWISSIMAGE 50 cm
Elevation Model DHM25 25 m, PK25
Topographic Map 1:25'000 © swisstopo

Massive Geodata Import

TerrainView-Globe™ supports an unlimited number of geodata layers and spatial resolutions up to 2.5 mm. Visualization speed is independent from the amount of data, streamed over the Internet.

Main Features

TerrainView-Globe™ supports spherical earth rendering and automatically handles multi-resolution imagery, elevation and vector data. TerrainView-Globe™ supports any number of image layers or terrain data inserts and manages continuous level of detail (LoD) while zooming through ultra-fast LoD calculation. Memory resources are efficiently reallocated among the currently used memory pages.

Multiple globes and data layers are coincident, concentric, or separated to provide various effects such as translucent overlays, dataset morphing and cloud rendering.



With TerrainView-Globe™, vector-/polygon-based 3D objects can be located either on the ground, in the air or in space. Textured 3D buildings and entire city models can be easily integrated into the model while conserving proportions and scale at all times.

Data access on TerrainView-Globe™ can be done from anywhere, locally or over the Internet. Through a loss-free texture compression, memory space is economized and thus the available bandwidth increased.

Visual Navigation

TerrainView-Globe™ Graphical User Interface provides an information tree that lists all layers, primitives, locations, 3D models and dynamic objects. The information tree has the ability to group elements into folders, save show/hide status for objects. It allows fully interactive flight during which users can control altitude, speed and viewing angle via the mouse or joystick, as well as terrain following flight modes and ground level navigation. Camera and flight paths are easily defined with smooth interpolation for position and orientation. To each path, 3D models from airplanes, helicopters and ground vehicles can be assigned to demonstrate real-time movement. The same functionality is used to "jump" or "fly" to selected objects. Camera and flight path technology allow videos to be generated at specific frame rates using different video codecs. Any flight path in a project can be exported to an AVI movie.

Visualization Tools

3D models such as buildings, billboards, trees, street culture can be imported to enhance the realism of the terrain (Fig. 4). TerrainView-Globe™ offers user-friendly functionality to manipulate objects. Various types of 3D objects with different formats can be merged. Objects can be selected, edited, rotated, moved, scaled or interactively positioned in the 3D scenery. Points of Interest (POIs) can be used to attach multimedia data and hyperlinks to object related websites and content.

3D Formats & Standards

TerrainView-Globe™ supports the following 3D formats:

- Autodesk 3D Studio Max 6 - MAX 2011
- CityGML (citygml)
- Collada (dae)
- Autodesk 3D Studio Max (3ds)
- Multigen OpenFlight (flt)
- Terrex TerraPage (txp)
- ViewTec (ivc)
- Openscenegraph (ive)
- CyberCity (flt/ivc)
- VRML 2 (wrl)
- Alias/Wavefront (obj)
- NewTek LightWave 3D (lwo)

Through OSG Exporter for Max 6 to 2011, models from Autodesk 3D Studio MAX and Autodesk VIZ can be directly exported in an optimized 3D visualization format for TerrainView-Globe™.

TerrainView-Globe™ takes full advantage of leading-edge OpenGL, the industry standard for high-speed 3D graphics programming. The rendering of TerrainView-Globe™ is accelerated through OpenGL.

TerrainView-Globe™ allows various kinds of 3D measurements, e.g. distances, angles, profiles, areas. Furthermore, it is possible to determine the position and distance of any terrain point by means of the cursor or a crosshair feature.

Weather Simulation

TerrainView-Globe™ has a broad functionality to simulate realistic weather and flight conditions. In order to generate realistic scenery, features include varying lighting and weather conditions (Fig. 5):

- Variable daytime and day of the year
- Increasing haze density with increasing altitude
- Volumetric 3D models of clouds
- Rain- and snow effects



Projection Systems

Users can load data with or without indicating a specific spatial reference for TerrainView-Globe™. TerrainView-Globe™ uses the world geodetic projection system 1984 (WGS84) for reference and supports the major and more than 2'500 local projection systems worldwide.

System Requirements

Hardware

2GHz dual core CPU or better (at least Pentium4 Intel/AMD), 2 GB RAM or more, 500 mb of free disk space or more

Graphics Card

OpenGL 2.0 support and 128 MByte Texture RAM, PixelShader 1.4, e.g. NVIDIA Geforce or ATI Radeon

Network Adapter

Supported Operating Systems

Windows XP 32/64bit, Windows Vista 32/64bit, Windows 7 32/64 bit

ViewTec Inc.

ViewTec Inc. is a leading software development company for interactive 3D GIS solutions. The company (founded in 2004) has vast experience in 3D GIS software development, and we actively leverage the latest technological advancements to improve our products and services. Commitment to quality, profound and strong skills in software development, build the basis for innovative products and excellent customer services.

Contact Details

ViewTec, Inc.

300 Continental Blvd.
Suite 450
El Segundo, CA 90245
LOS ANGELES, USA
Tel +1 (310) 760 25 56
Fax +1 (310) 760 25 66
info@viewtec.net
www.viewtec.net

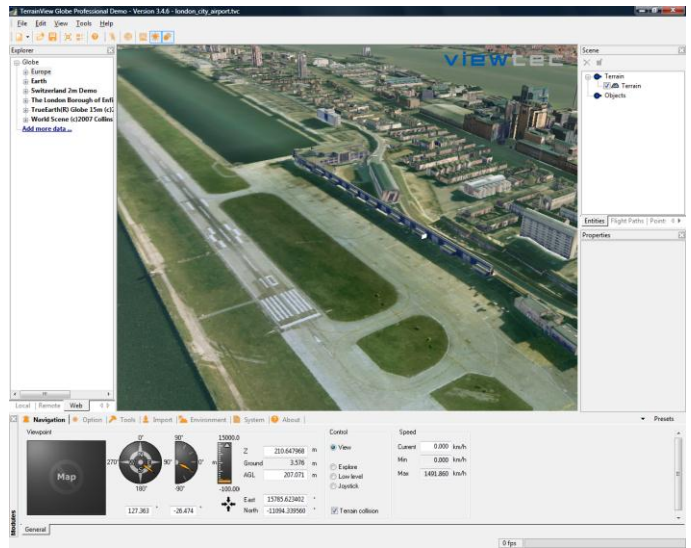


Fig. 4: Virtual reality through geo-referenced 3D landscapes and models (terrain, power poles & lines, trees, houses)

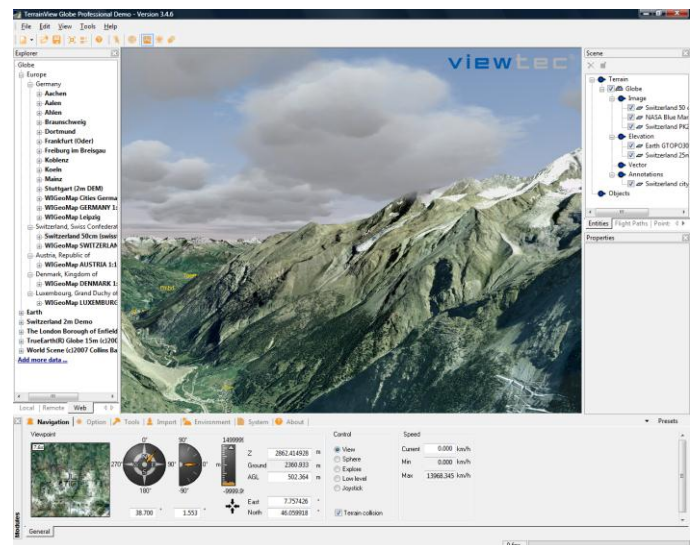


Fig. 5: SWISSIMAGE 50 cm & DMH25 with simulated atmospheric and weather conditions © swisstopo