



vieWTerra Sensors

4D Earth viewer for multi-sensor simulation

vieWTerra Sensors is a 4D Earth viewer dedicated to multi-sensor simulation, combining sensor simulation European leader OKTAL-SE's expertise with VWORLD's vieWTerra Evolution Viewer 3D real-time rendering capabilities. It produces a geotypical procedural representation of the entire Globe and a geospecific static representation of areas of interest for ground to satellite applications.

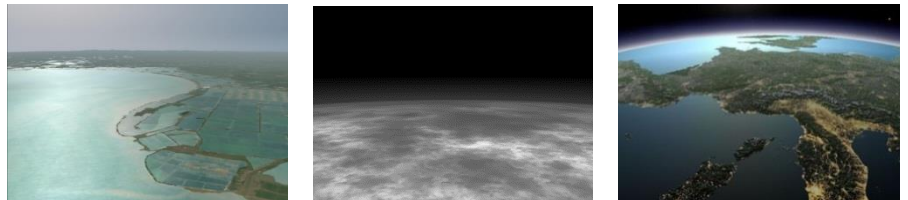
Main characteristics

- Automatic generation of a WGS84 ellipsoidal Earth terrain model
- Land-Air-Sea-Space immersive environment
- Real-time 3D procedural rendering algorithms
- Includes VWORLD's vieWTerra Base set of global mosaics: 29m Imagery, 90m DEM, 29m Land Cover worldwide
- Virtual resolution up to 1 cm for the whole Planet
- Standalone application allowing integration of geospecific 3D datasets inserts within the procedural environment at any given area
- 500+ objects and ground types library
- SWIR, MWIR and LWIR infrared rendering
- Compatibility with OKTAL-SE's SE-FAST-IG: capability to be integrated in a standard simulator

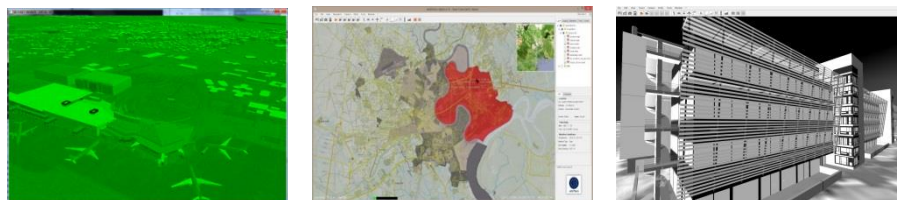
vieWTerra Sensors software features

vieWTerra Sensors mixes 3 approaches:

1 - Real-time infrared rendering anywhere on Earth



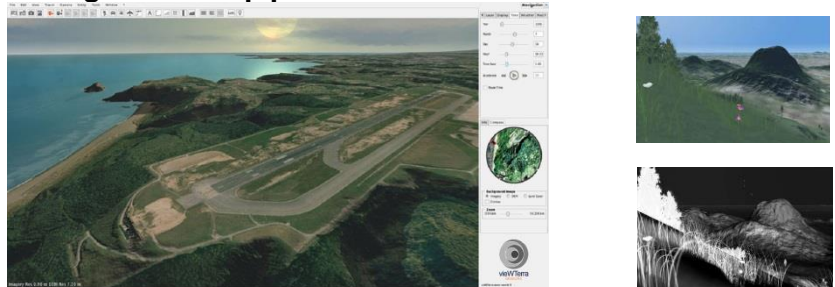
2 - Integration of Areas of Interest



3 - Dynamic rendering of all types of weather, allowing for real-time changes



Manages close-up precision as well as infinite view distances



Benefits

- Uses procedural algorithms between elevation samples for terrain geometry creation
- Addresses the problem of very large databases management
- Uses only definitions and rules for terrain attributes generation, instead of storing and streaming each and every asset
- Generates refined terrain and content on the fly at the required level of detail
- Balances level of detail depending on machine load

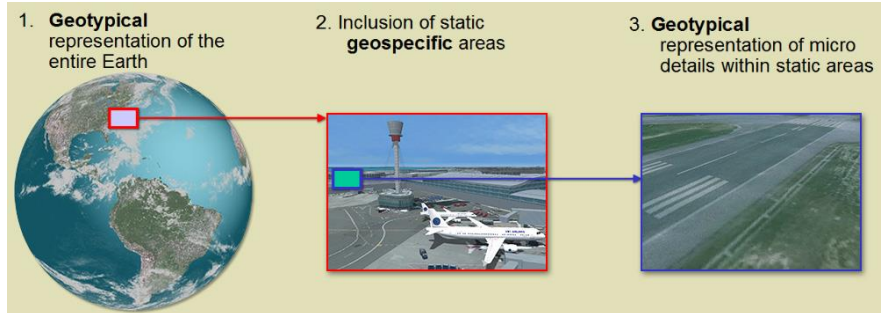


System requirements

 Windows XP and beyond

viewTerra Sensors common use cases

viewTerra Sensors allows to integrate detailed static zones - fully prepared using OKTAL-SE's SE-Workbench-EO - in the global Earth environment and then to invent details such as grass or gravel for ground exploitation.



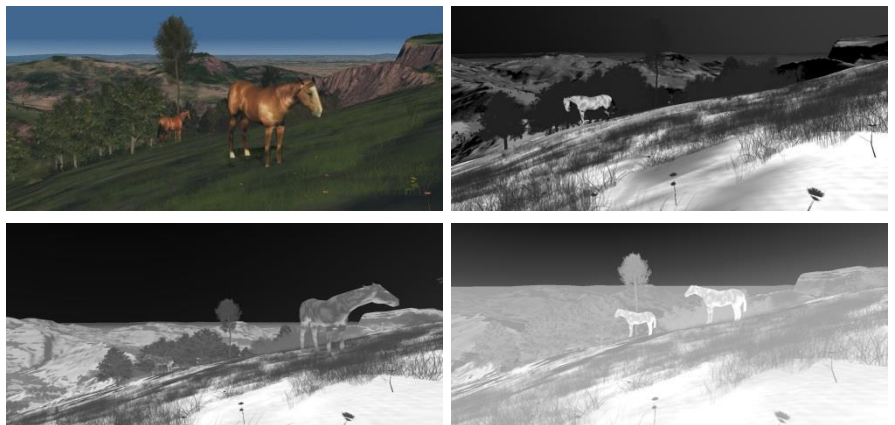
viewTerra Sensors method

viewTerra Sensors is based on “material cover” procedural generation and uses Land Cover i.e. raster/vector files, which indicate nature of the terrain locally.

viewTerra Sensors invents new materials in real time by refining the material grid function of the apparent surface of objects and terrain:

- using texture synthesis
- using 3D details instancing
- using classification to deduce infrared physical attributes

Short- Mid- and Long wavelength (SWIR, MWIR, LWIR) infrared rendering, based on OKTAL-SE's SE-Workbench-EO algorithm, is available in real time.



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