OKTAL-SE
Synthetic Environment

SE-Workbench-AEO: Active EO software package description

The SE-Workbench-AEO solution allows experimented users to work with the advanced technology of the OKTAL-SE software. Infrared laser images, including generic sensor effects, are generated using ray-tracing methods (non real time advanced rendering). Flash Laser Imaging Systems & Laser Range Finder (LRF) Systems are simulated with SE-Workbench-AEO. Also, the suite includes a toolkit dedicated to compute the 3D scene interaction with the Line Of Sight (LOS).

Import capabilities are provided in order for the user to work on existing 3D terrain databases or 3D objects (geometry & texture). A plug-in to 3DSmax^{TM} and SketchUp^{TM} is delivered. The user assigns physical materials to geometries via textures from a provided library of physical data. Advanced tools enables to work on 3D objects and to enhance the set of physical materials. Various atmospheric conditions can be computed. The thermal state of existing 3D environments can be predicted. The Application Programming Interface (API), based on a static scenario definition, enables to connect the image rendering process to a customer application.

The documentation package delivered with the SE-Workbench-AEO includes the User Manuals, the internal format description, the Developer Manual as well as Physical Models documentation and Tutorials.

The SE-Workbench-AEO solution is delivered for (Windows^{TM}) operating system (also compatible with Linux system) in its English version. A USB dongle controls the license.

The SE-Workbench-AEO solution can be covered by a support and maintenance contract.

SE-Workbench-AEO

Synthetic environment modeling:

Import capability:	**SE-FFT**
	SE-PHYSICAL-EDITOR
	+library of EO generic textures
	+library of EO physical materials
3D terrain:	*Airport and sample of rural database*
3D objects:	*samples of 3D objects*
Atmospheric modeling:	**SE-ATMOSPHERE**
	+library of atmospheric files
Thermal state modeling:	**SE-THERMAL**
	+library of thermal files

Integration and signal rendering:

Scenario edition:	**SE-SCENARIO**
Fast time passive EO rendering:	**SE-FAST-IR**
Advanced passive EO rendering:	**SE-RAY-IR**
Advanced active EO rendering:	**SE-RAY-ACTIVE-EO**
Sensor modeling:	**SE-IR-SENSOR**
Signal visualization:	**SE-SIGNAL-VIEWER**
Software integration:	**SE-TOOLKIT**
Signal manipulation:	**SE-TK-FORM-SPS**
Telemetry functions:	**SE-TK-D-SCNX-TEL**
	SE-TK-FORM-ATM
	SE-TK-FORM-MAT

Documentation:

Software:	User Manuals
	Format description
	Integration developer manual
Physical Models:	Physical Models documentation
	Validation Dossier documentation
Tutorials:	SE-TOOLKIT tutorials
	SE-IR-SENSOR tutorials
	SE-TK-FORM-SPS tutorial
	SE-AEO tutorials