SE-Workbench-HWIL-EO: HWIL EO software package description

The SE-Workbench-HWIL-EO suite is the complete solution to address HardWare In the Loop (HWIL) applications. This package includes all the features of the SE-Workbench-EO to compute Infrared images, including generic sensor effects plus the advanced features of the SE-FAST-HWIL package to reach high frame rate performances (200Hz and above) in a closed loop mode.

Import capabilities are provided in order 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 is able to assign physical materials to geometries via textures from a provided library of physical data. Advanced tools are provided 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.

SE-FAST-HWIL embeds an executable-ready render engine that does not require any compilation. A dedicated API makes it possible for advanced users to integrate the HWIL features in another simulation application.

The documentation package includes the User Manuals, the internal Format description, the Developer Manual as well as Physical Models documentation and Tutorials.

This edition is delivered for (Windows^{TM}) operating system (also compatible with Linux system) in its English version. A USB dongle controls the license. On site assistance for integration and set up can be provided on demand.

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

SE-Workbench-HWIL-EO

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 .atm files*
Thermal state modeling:	**SE-THERMAL***+library of thermal files*

Integration and signal rendering:

Scenario edition:	**SE-SCENARIO**
Fast time rendering:	**SE-FAST-IR**
HWIL capabilites:	**SE-FAST-HWIL**
Advanced rendering:	**SE-RAY-IR**
Sensor modeling:	**SE-IR-SENSOR**
Signal visualization:	**SE-SIGNAL-VIEWER**
Software integration:	**SE-TOOLKIT, SE-TK-FAST-HWIL**
Signal manipulation:	**SE-TK-FORM-SPS**
Network communication:	**CIGI interface**

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-FAST-HWIL tutorials
	SE-TK-FORM-SPS tutorial
	Methodological guide for HWIL