SAMIEdit Version 1.0 - Release Notes

1. NEW RELEASE DESCRIPTION

1.1 Software and Hardware Requirements

The SAMIEdit application is available for the following computer platforms and operative systems:

- Windows 7/8 (32-bit application)
- Mac OS X Intel 10.8 or above (64-bit application)

The SAMIEdit software requires:

- 500 MB of hard disk space
- Dedicated Graphic card (e.g. tested successfully with NVIDIA Quadro 5000 and NVIDIA GeForce 840M on Windows, NVIDIA GeForce GT 650M on Mac OS X)

    o If the platform only has an integrated graphic card (e.g. Intel® HD Graphics 4000), the display of 3D scenes may not be completely smooth. For this type of cards, it has been observed flickering of the satellite 3D model.

    o If the platform has both a dedicated and an integrated graphic card, make sure you run the executable with the dedicated graphic card.
        ▪ In Windows, this can be ensured by right-clicking on executable and selecting 'Run with graphics processor'→High-performance NVIDIA processor.
        Another option is to right-click on the executable and select 'Change default graphics processor…'. Then in 'Program Settings'
        1. Select a program to customize: 'SAMIEdit.exe'
        2. Select the preferred graphics processor for this program: e.g 'High-performance NVIDIA processor'

    o In Mac OSX, the graphic card selection is handled transparently to the user. If you want to ensure the high performance graphic card is used at all times, then in System Preferences → Energy Saver, deselect the 'Automatic graphics switching' checkbox

- For Windows: Direct X runtime version 11
- For Mac OS X: OpenGL 3

1.2 Third-Party Libraries

SAMIEdit is based on Unity rendering engine v5.2.4. The application also makes use of the EO CFI SW libraries version 4.10 to drive the satellite(s) orbital parameters, instruments swath behaviour and Sun/Moon objects.

1.3   Installation Packages

The SAMIEdit distribution consists of one archive for each supported computer platform:

	Package
Windows	SAMIEdit_1_0_0_0_Win_x86.zip
Mac OS X	SAMIEdit_1_0_0_0_OSX_x86_64.zip

1.4   Installation Hints

In order to install SAMIEdit, the distribution package needs to be unzipped into the selected installation directory. See the SAMIEdit Quick Start guide for further details.

2. NEW FUNCTIONALITIES

This release provides the following functionalities:
- Display the following objects as part of the mission scenario:
  - Satellites
    - 3D Model / 2D billboard
    - Orbit Trace
    - Ground-Track
    - Instrument Swaths
  - Ground Stations
    - Location
    - Mask
    - Status (active, non-active, visibility)
  - Celestial Objects (Earth, Sun, Moon, planets, Star field)

- Manage the following scene elements as part of the mission scenario:
  - Cameras (including 2D/3D views)
  - Earth Texture
  - Text Overlay
  - Thrusters firing
  - Triggering of animations of satellite moveable parts (antenna and solar array deployment sequence)

- Schedule events in a timeline for a given mission scenario. The following mission objects and scene elements can be defined as events:
  - Cameras
  - Earth Textures
  - Instrument Swaths
  - Thrusters
  - Ground Stations

- Run a simulation and give the user control over time simulation parameters:
  - Play/Pause
  - Speed factor
  - Set simulation start/stop time
  - Real-Time simulation mode (set to system time)
  - Run in endless loop mode

- Define the following camera views:
  - Camera attached to Earth (free handle on Earth)

- o Camera attached to Satellite (free handle on Satellite)
- o Camera looking through Satellite towards Earth
- o Camera looking through Satellite towards Ground-Station
- o Camera looking through Satellite 1 towards Satellite 2

- Provide a predefined set of 2D/3D Earth textures
- Generate image snapshots and video recording in a predefined set of resolutions

3. CLOSED SPRS

N.A.

4. ADDITIONAL COMMENTS AND KNOWN PROBLEMS

4.1 Mission Support

The SAMIEdit distribution package already includes mission configuration files for the following supported ESA missions:
- Aeolus
- Sentinel-1
- Sentinel-2
- Sentinel-3
- SMOS
- SWARM A/B/C

4.2 Known Issues

The current SAMIEdit release has de following limitations:

- None

4.3 Hints and Tips

Please check the SAMIEdit Quick Start guide for further information.

5. REPORTING PROBLEMS

For any problems or questions please send an e-mail to the SAMIEdit helpdesk:
mpinol@eopp.esa.int