World Terrain
Brought to you by
Hush-Software

PRESENTATION

- You enjoy flying with your favorite flight simulator, but have you ever felt bored by watching generic textures?

- Would you prefer to see your favorite's spots from above such as your own house?

- Wonder how it really looks from above?

- Do you want to prepare your next real flights by getting some real visual references?

WORLD TERRAIN IS FOR YOU!

With World Terrain you will have an unmatched quality view from the sky provided by high-resolution satellite imagery of up to 60 cm per pixel: On top of imagery it accurately places trees, buildings in other objects to give the most realistic flying experience.

INTRODUCTION

- World Terrain is an add-on for your favorite Flight Simulator that generates photo realistic terrain from satellite imagery streamed directly to your simulator.

- World Terrain adds unprecedented realism by adding 3D such as buildings and trees at their precise location over the photorealistic terrain.

- Nothing matches photorealistic terrain with accurately positioned Autogen

- World Terrain is designed for both general aviation flying low and slow and for airliners flying high and fast

INSTALLATION

1. Just run the installer named "Setup_World_Terrain_VXXX.exe"

2. The Simulator checks that pre-required software is installed and displays red or green lights. If a light is red, press the install button to download and install the prerequisites. You should continue the install once all green lights are displayed.

3. Select your Flight Simulator – The installer will detect the ones currently installed on your System. In case of multiple versions installed, the installer will let you decide which simulator to use with World Terrain

4. When prompted enter the folder where to install the program

5. At the prompt Select the directory where World Terrain will install the Scenery file definition

6. After the files are copied World Terrain will update the files containing the definition of scenery used by your simulator – "Scenery.cfg"

7. The installer will offer you to launch the program and to read this file – Enjoy!

REQUIREMENTS
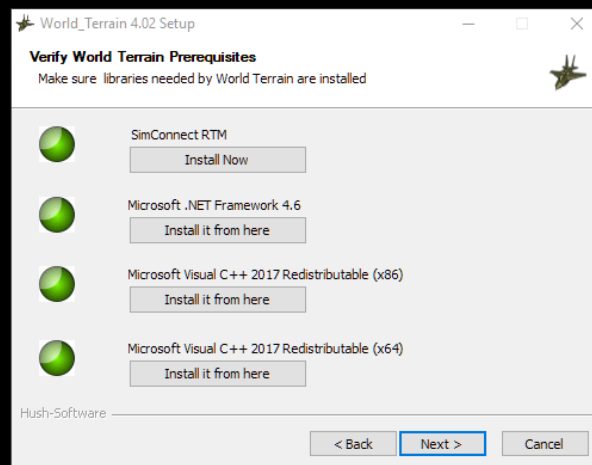
- Flight Simulator Software : Microsoft Flight Simulator Acceleration , FSX -Steam Edition, Prepar3D

- A fast internet connection

- Enough Disk space and the required space will grow with usage as the user flies over more areas

- Windows 7 or Windows 10 64 bits version

USAGE

1. Launch your Flight Simulator

2. Launch World Terrain

3. The Connection led should turn green indicating a connection with your Flight Simulator and streaming of terrain should start

4. You should see the streaming needle go up and the Terrain led turn red, orange and then green

5. At start-up World Terrain streams over 30 000 square km of terrain at various resolution and displays a message "Generating Terrain Please Wait".

6. If you fly faster than the simulator can stream a message "Slow Down or Pause" will appear. If this appears regularly you can either:

    a. Lower the Max Zoom in the Options of World Terrain (for airliners a zoom of 16 is sufficient)

    b. Reduce the Level of detail radius Options-> Settings -> Display -> Scenery

    c. Fly more slowly or change aircraft

7. Enjoy your flights!

USER INTERFACE
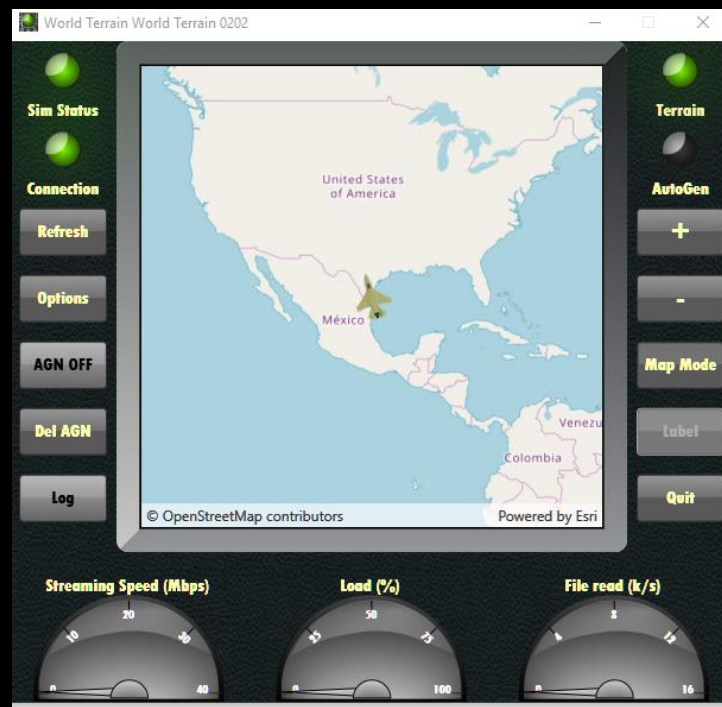

World Terrain displays following information:

<u>Leds:</u>

- **<u>Sim Status :</u>** Indicates if Simulator is running (Green) or Stopped (Red) or Paused (Yellow)

- **<u>Connection :</u>** Indicates if the simulator is connected to the Simulator – (Green) or disconnected (Red)

- **<u>Terrain:</u>** When red indicates that World Terrain has some missing Terrain and is still catching up. Orange is displayed when World Terrain is streaming the terrain for the predicted next position - Green means World Terrain is idle

- **Autogen:** Green is displayed when Autogen has been created for the area been overflown - Yellow indicates that Autogen is currently being generated – The Led is off when no Autogen for the area has been created

Buttons:

- **Refresh:** Used to request the simulator to refresh the scenery and display the newly streamed terrain

- **Options:** Set World Terrain to suit your configuration

- **AGN:** Either on or off - When on World Terrain downloads Autogen objects such as trees and buildings for the area being overflown

- **Del AGN:** Deletes Autogen for a whole area **as described in** Figure 1

  - The Scenery is organized in subdirectories of WORLD _TERRAIN\XXYY

  - The Value of XXYY can be found on World Terrain Windows Title or on the following map where XX and YY are column and row numbers respectively.


Figure 1
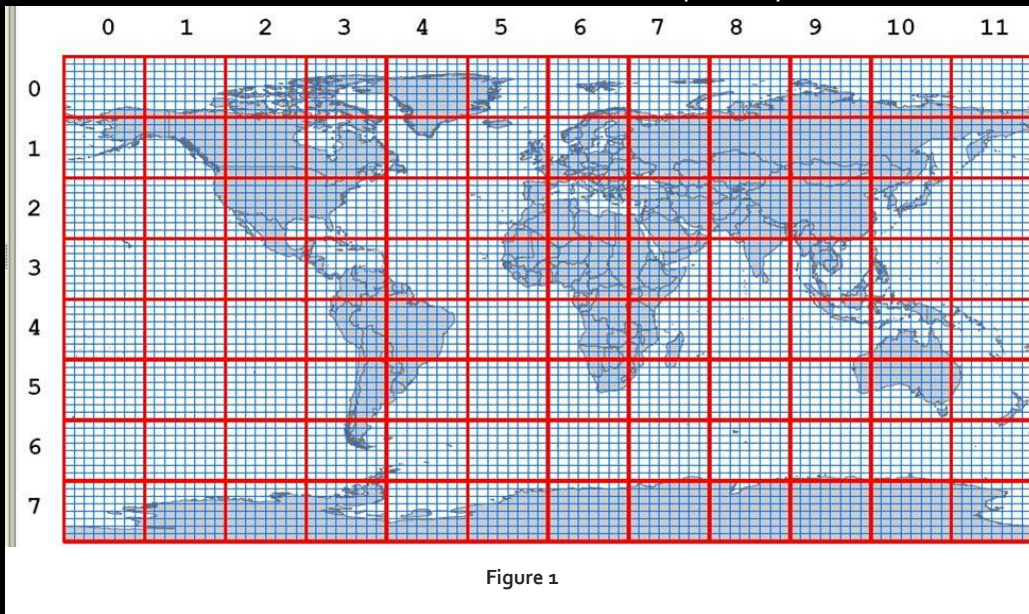
- **LOG:** Displays a log window used for debugging purposes

- **+ / - :** Buttons Used to zoom in or out on the map

- **Map Mode:** Allows user to select to display the moving map in imagery or map mode

- **Label:** Used in imagery mode to add labels to display information such as city names

- **Quit:** See you on your next flights!

Gauges:

- **Streaming Speed:** Shows how fast World Terrain is streaming terrain

- **Load:** Load indicates the percentage of time busy over time idle

- **File read k/s :** Indicates the number of thousands of files read by the simulator per second

OPTIONS
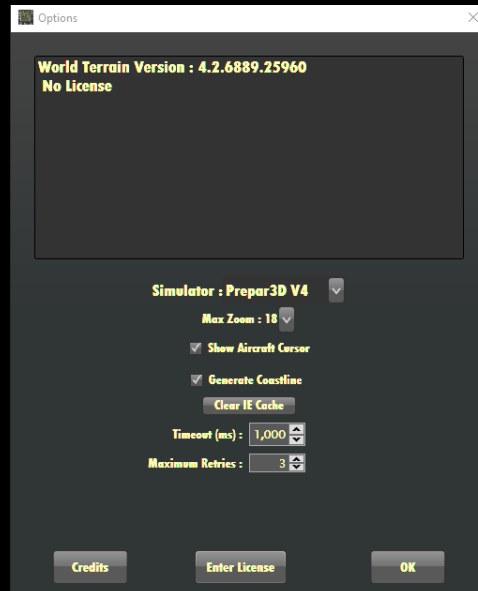
- **Simulator:** Allows to switch World Terrain to use another flight simulator among the ones installed on your PC

- **Max Zoom:** Use this option to reduce the maximum zoom on slow internet connections

- **Show Aircraft Cursor:** Display or not a small aircraft at the screen center showing aircraft bearing

- **Generate Coastline:** If Disabled coastlines are rectangular blocks

- **Clear IE Cache :** Erases content of Internet Explorer cache

- **Timeout (ms) :** Maximum time to wait for server answer – On slow internet connections increasing this number might help

- **Maximum Retries :** Maximum number of retries if no answer from server – On slow internet connections increasing this number might help

- **Credits : A reminder** to check hush-software.com website

- **Enter License:** Allows to enter or uninstall a license

    - If you wish to install World Terrain on another PC you must first deactivate it before activating the license on a new PC

- **OK : Closes Option window**

LICENSE WINDOW

Use this window to enter license:
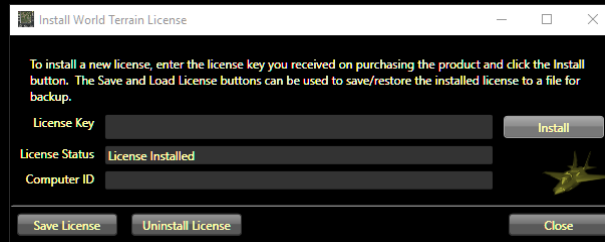

SIMULATOR SET-UP

- World Terrain requires Windows Defender to be **disabled**:

  - **Search "Defender" in Start Screen**

  - In Settings –Real-time protection select Off

  - You may alternatively simply exclude Window defender from scanning World Terrain Scenery files

- Simulator Set-up

  - Select Option ->Display

  - Graphics:

    - Texture Filtering: Anisotropic

    - Texture Resolution High 2048

    - Use high resolution terrain textures – unchecked (Prepar3d V4 only)

    - Hardware tessellation - checked if available

  - Scenery:

    - Level of detail radius: High (If your streaming speed is above 10Mbs you can gradually increase this settings)

    - **Texture Resolution: 7 cm (this is the most important set-up)**

    - Land and detail textures - checked if available

  - Autogen:

    - Autogen density sliders as appropriate

  - Lighting:

    - HDR lightning – as per user preference but it is recommended to start without as settings may require tuning to match satellite imagery

COMPATIBILTY

- Flight Simulator FSX RTM, FSX Acceleration

- Flight Simulator Steam Edition

- Prepar3D V1, Prepar3D V2, Prepar3D V3 , Prepar3D V4

ALLOCATING BUTTON TO REFRESH

- Users that have a registered version of FSUIPC can allocate a joystick button to trigger the Refresh of the terrain.

- The allocation is done by Selecting the button and associating it to the macro "Lua Refresh WT"

- The macro is copied on user computer by the installer if FSUIPC was detected
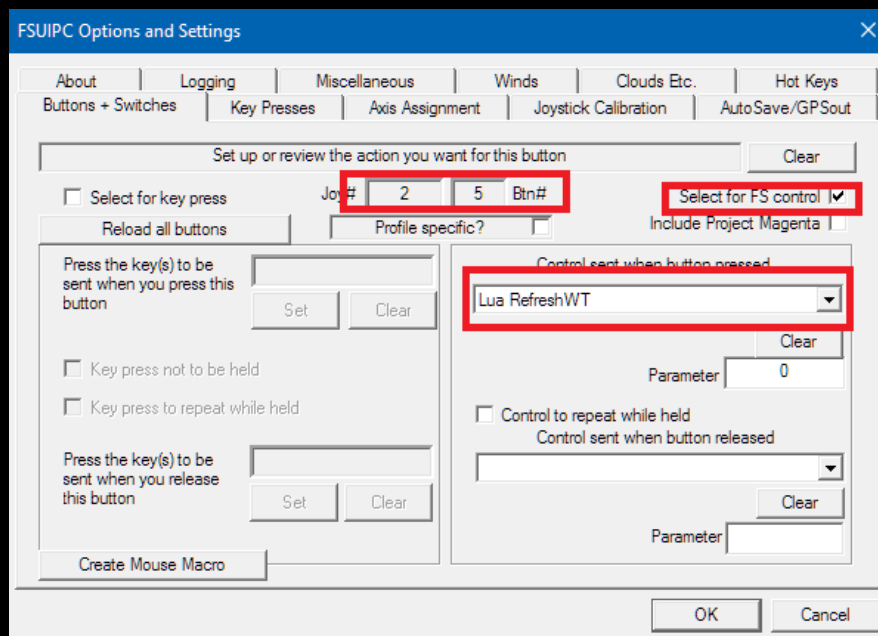
KNOWN ISSUES

- Terrain not displayed correctly at night as World Terrain only includes daily textures

- Coast Lines not showing water as it should in rare cases

- Green or black squares appearing instead of terrain – This indicates the aircraft is flying faster than World Terrain can stream.I fit occurs at start-up just press Reresh otherwise consider lowering LOD Radius settings.

- Terrain may show different color from afar as our satellite image provider may use images from various seasons for different resolutions

- Refresh sometimes not performed automatically on FSX and FSX-SE – Please use either Joystick button with FSUIPC or Open Window World ->Scenery Library and Press OK to trigger a Refresh

- **When moving the aircraft either by selecting new airport or loading a scenario the simulator is long to update the position while World Terrain displays "Moving Please Wait".**

FAQ

1. IS WORLD TERRAIN COMPLIANT WITH PHOTOSCENERY USAGE

- Hush-Software has an agreement to **access** satellite imagery by Esri for World Terrain.

2. CAN I USE OTHER SATELLITE IMAGERY PROVIDERS?

- Technically Yes but it **would** not be compatible with most providers terms of service.

3. WHY DOES WORLD TERRAIN NOT SAVE THE TERRAIN TO MY DRIVE?

- World Terrain has only the rights to stream the terrain.

4. IS WORLD TERRAIN COMPATIBLE WITH OTHER SCENERIES?

- World Terrain uses the flight simulator priorities so you can have a layer of scenery above any other.

- For example, you may want to put any airport add-on you have above World Terrain so your detailed scenery appears.

5. SHALL I UNINSTALL OTHER PRODUCTS?

- World Terrain is not as detailed as hand-crafted modeled sceneries so it is a great complement to your existing adds-on.

6. THE SIMULATOR SHOWS WRONG OR GREEN TERRAIN INSTEAD OF SCENERY

- This happens if Flight Simulator has not processed the new generated files. Simply Press Refresh to have flight simulator process the new streamed terrain.

7. I CAN NOT DISPLAY WORLD TERRAIN INTERFACE

- You may bring up the World Terrain interface by pressing "Alt+Enter" to toggle your flight Simulator from full Screen / Windowed mode. Alternatively, you may switch among windows by pressing "Alt+Tab"

8. CAN I TURN WORLD TERRAIN OFF TO SEE GENERIC TERRAIN?

- Simply turn World Terrain off or alternatively in your simulator menu, Select World -> Scenery and deselect World_Terrain_Priority

9. HOW IS THE SCENRY ORGANISED?

- When World Terrain is running and the simulator reads the Scenery.cfg file new entries are added (and not saved) at the level defined by the World_Terrain_Priority level.

10. NO AUTOGEN OBJECTS ARE DISPLAYED

- Check that Autogen density sliders in Options -> Graphics are set appropriately

- Check that OpensStreetmap does have information on the flied area (for example through World Terrain Map with Map Mode set to Openstreetmap)

11. SOME AUTOGEN OBJECTS ARE MISSING

- The Trial version does not include all AutoGen objects

12. A PARTICUL AUTOGEN OBJECTS IS MISSING

- AUTOGEN is created using Openstreetmap data, so if you find that your house or any particular building or object is missing you can just add it to the database by contributing: https://wiki.openstreetmap.org/wiki/How_to_contribute

CREDITS

- Mapping API provided by Esri ArcGIS Runtime SDK for .NET

- OpenStreetMap for all Autogen objects and coastlines

- Special Credits to Christian Buchner for the Original idea of TileProxy

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For technical assistance contact customer_support@hush.software