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X-EUROPE 2.0

Scenery for X-Plane 10 and 11

www.simheaven.com

March 2018

X-EUROPE 2.0 is a new scenery using XP11 objects like the standard scenery, but the objects are not set by an auto-gen rule, they are set like following OSM data, which leads to a more realistic (some people say stunning) look and feel. You could see results of different demo flights with older versions of *X-EUROPE* on YouTube, even a comparism between various scenery configurations (Ortho4Xp, Standard, *X-EUROPE*): https://www.youtube.com/channel/UCZzxqygX3ZRF5rIlZuEE7RA/videos

This is the first step with default objects for Europe, the second step will bring localized objects for countries and regions, so you will recognize where you fly if you simply look outside the window.

Copy the 3 folders of the archive to the Custom Scenery folder, after starting and ending X-Plane, you need to adjust the order of entries in scenery_packs.ini, refer below for details.

The complete scenery consists of 3 layers:

- simHeaven_X-Europe-1-extras
  This is the layer having extra elements, like caravans on camping sites, cars and trucks on parking sites, allotments, parasols at the beach, additional trees in cities.
- simHeaven_X-Europe-2-scenery
  This is the layer with the main scenery, includes all buildings, forests and trees, landmarks like stadiums, churches, chimneys, wind turbines, cranes, masts and towers, tanks, sea marks, piers and boats. And the library.txt.
- simHeaven_X-Europe-3-network
  This layer has all the network like roads, railways, power lines, aerials like lifts, gondolas and so on. Beware it's an unprocessed scenery generated with a beta tool (world2xplane 0.7.4) having experimental status for roads.

No additional libraries needed to run *X-EUROPE*!

Recommended:

- hardware with graphic card 8 GB VRAM and memory 32 GB RAM
- photo/orthographic sceneries, more information at http://simheaven.com/photo-sceneries/ or HD Scenery Mesh by Andras Fabian, http://www.alpilotx.net/

If you like the scenery and want to support my work, think about a donation to simHeaven

https://www.paypal.me/simheaven

Have fun flying!
Armin (aka PilotBalu)
simheaven.com

Changelog

v 2.0 (March 2018)

- improved and updated version

v 1.0 (February 2018)

- initial version, default scenery

Credits

- Austin Meyer, Laminar Research for the permission to use XP11 objects
- Tony Wrobleski for creating world2plane
- OpenStreetMap https://www.openstreetmap.org and all of its editors doing the data input
- GeoFabrik http://download.geofabrik.de/ for providing the downloads (20 GB for Europe)
- *X-EUROPE* core team Axel (Wildkatz), Roland (maydayc) and Sven (Blen) for their help
- Claudio, David, Giancarlo, Henry, Kim, Mike, Paolo for ideas, objects and recommendations
- Authors of R2 Library and OpenSceneryX for some used objects

Description

More than 800 hours of work, plus work of my core team members (thanks to Axel, Roland and Sven for the help and patience with me) plus help from others (Claudio, David, Giancarlo, Henry, Kim, Mike, Paolo) plus kind permission from Austin Meyer Laminar Research (without it wouldn't be possible) to use and rework the XP11 objects, that's all behind the new "*X-EUROPE*" scenery for XP11. I hope you remember when you download and use the scenery. ☺

Thanks to all helping me reaching the finish line! ☺

This is the first step with default objects for Europe, the second step will bring localized objects for countries, so you will recognize where you fly if you simply look outside the window. It's planned to make small country packages for e.g. Italy/Mediterranean area, France, the Alps, Denmark, GB, Norway etc.. The country packages will change objects in this country or region to typical objects.

This scenery was generated with world2xplane beta 0.7.4, a tool made by Tony Wrobleski. For more information about world2xplane application please refer to
http://forums.x-plane.org/index.php?/files/file/33450-world2xplane-application/

OSM data is provided by http://geofabrik.de - many users all over the world are doing the input for free. Please help and improve your region, visit openstreetmap.org for details or support the project at https://donate.openstreetmap.org/

OSM data

Even if OSM data is quite good in Europe, it isn't best in some regions. Therefore I've generated some regions only based on OSM data (plus some additional objects) and other regions based on OSM data and auto-gen objects which are loaded from the sceneries below. So called smart exclusions allow or disable auto-gen objects in these regions where OSM data is poor. In these tiles, a rule determines an exclusion if the number of objects are above a certain value and if it seems that OSM data is sufficient. Here is an overview where only OSM data is used, outside this area you will see sometimes additional objects coming from sceneries below (using smart exclusions):

This shows the coverage of *X-EUROPE* and the generated tiles for X-Plane:
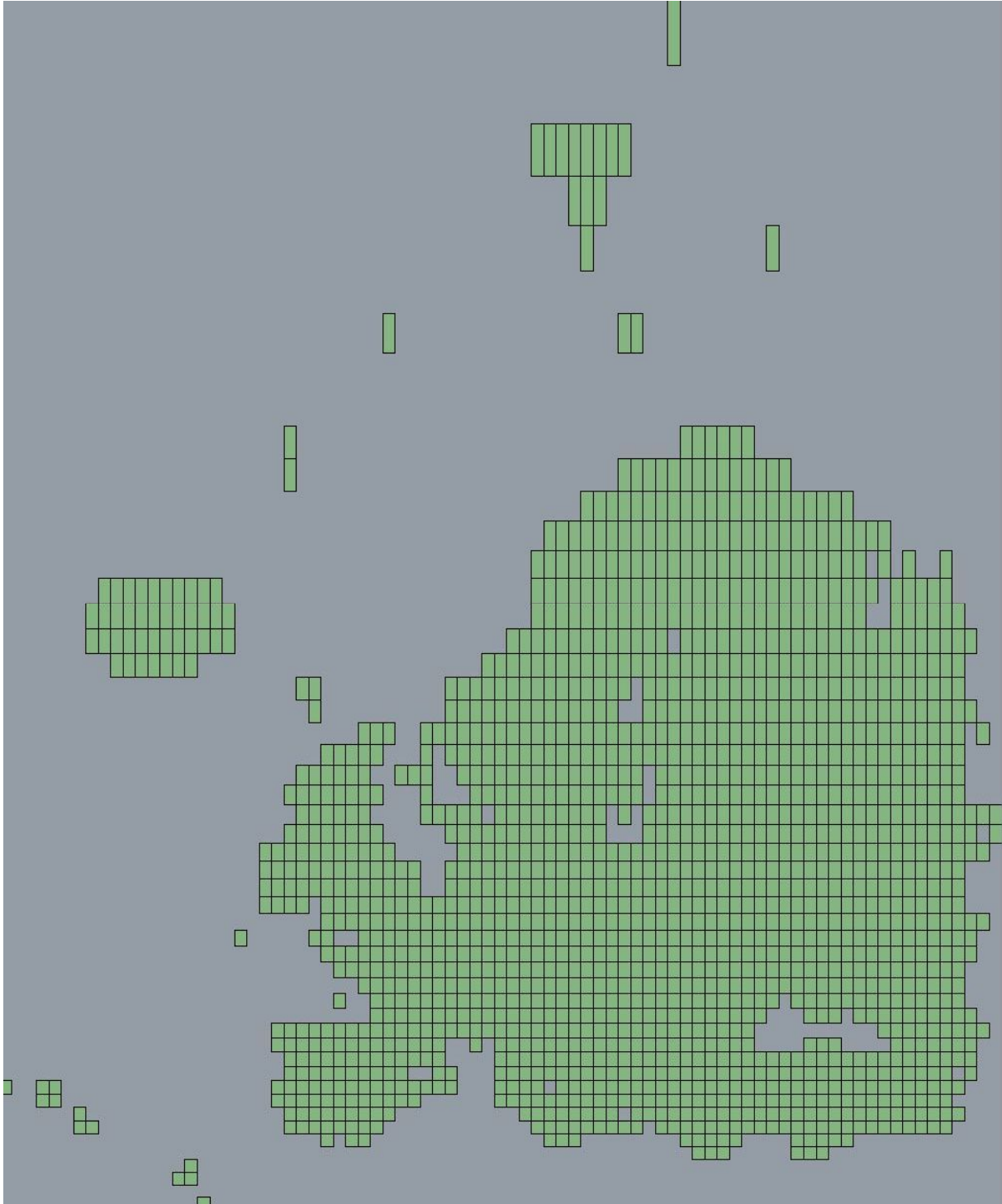
Sceneries needed

For the *X-EUROPE* you only need **one** scenery for the terrain (which includes mesh and terrain textures), this could be

- the standard X-Plane scenery, i.e. the scenery of X-Plane 11
- HD/UHD Mesh scenery or any other improved terrain scenery or
- Orthographic sceneries, made with G2XPL or Ortho4XP, which is the preferred option as the ground perfectly fits to the objects.
  For the Ortho4XP, you don't need the overlay sceneries (for Europe).

One of them is only needed, not all of them! ;)

scenery_packs.ini

For a better overview of your scenery_packs.ini, I recommend to add separators, i.e. empty folders named like "------------- my sceneries ----------" as you see here:

```
SCENERY_PACK C:\--------\----------- Custom Airports -----------/
SCENERY_PACK Custom Scenery/_EDDN Nuernberg/
SCENERY_PACK Custom Scenery/_EDQH Herzogenaurach/
SCENERY_PACK C:\--------\----------- Aerosoft Sceneries -----------/
SCENERY_PACK Custom Scenery/Aerosoft - EDDF Frankfurt/
SCENERY_PACK Custom Scenery/Global Airports/
SCENERY_PACK Custom Scenery/KSEA Demo Area/
SCENERY_PACK Custom Scenery/LOWI Demo Area/
SCENERY_PACK Custom Scenery/X-Plane Landmarks - London/
SCENERY_PACK C:\--------\----------- VFR Objects -----------/
SCENERY_PACK F:\X-Plane_Scenery\VFR-Objects\VFR-Objects_+49+010_DE_Ansbach/
SCENERY_PACK F:\X-Plane_Scenery\VFR-Objects\VFR-Objects_+49+011_DE_Erlangen/
SCENERY_PACK C:\--------\----------- X-EUROPE -----------/
SCENERY_PACK Custom Scenery/simHeaven_X-Europe-1-extras/
SCENERY_PACK Custom Scenery/simHeaven_X-Europe-2-scenery/
SCENERY_PACK Custom Scenery/simHeaven_X-Europe-3-network/
SCENERY_PACK C:\--------\----------- Libraries -----------/
SCENERY_PACK Custom Scenery/OpenSceneryX/
SCENERY_PACK Custom Scenery/R2_Library 2.0/
SCENERY_PACK C:\--------\----------- Ortho4XP Sceneries -----------/
SCENERY_PACK_DISABLED R:\X-Plane_Scenery\o4xp\yOrtho4XP_Overlays_HDv4-EU/
SCENERY_PACK F:\X-Plane_Scenery\o4xp\z+41+002_ES_Barcelona_obx17+/
SCENERY_PACK F:\X-Plane_Scenery\o4xp\z+49+010_DE_Ansbach_obx17+/
SCENERY_PACK F:\X-Plane_Scenery\o4xp\z+49+011_DE_Nuernberg_obx17+/
SCENERY_PACK R:\X-Plane_Scenery\HD Mesh Scenery v4/
```

To ensure having the right results, entries in the scenery_packs.ini have to be ordered, if you look from top to bottom, the entries are from small areas (airports) to bigger areas (regions) to continents or the whole world. The ini above is ordered following that rule.

There are tools available like X-Organizer helping you to sort the entries, after sorting you should always check if the ordering is right.

For Ortho4XP-users: The **X-EUROPE** layer 2-scenery has exclusions for objects, facades and forests, layer 3-network has exclusions for network, so if you use layer 2 and 3, there is no need to enable the Ortho4XP overlays for this area, you may need it only outside Europe.

If you use VFR-Landmarks or any other global scenery and want to have them outside of Europe, set them below **X-EUROPE** , then in Europe this will be blocked and outside not.

Tipps and tricks

Some software settings could decrease performance of X-Plane. I'm doing support for several years, helping others to solve problems and to increase performance. This are the main things you should check:

- If you have an antivirus or internet security program, probably all files are scanned while loading, which increases loading time. Make an exception in the antivirus program, and disable scanning for read access for all used drives, paths and folders of your sceneries and for X-Plane itself.
- disable (or delete) all sceneries not needed. X-Plane loads all "active" sceneries even if exclusions blend out every scenery below, this needs loading time.
- disable all AI aircrafts, every AI aircraft takes CPU power and performance. If you like it busy on airports or in the sky, better use an add-on like "X-Life" or "World Traffic".
- check BIOS and GPU settings for energy savings and check if it is enabled. If so, this could decrease performance, so disable energy savings if you want to have maximum performance of your hardware.

- remember if you use orthographic sceneries, ONE tile has a total size of 8 GB for zoom level (ZL) 17, so imagine how much data is loaded into memory and VRAM for 6 or more tiles. Same if X-Plane loads tiles during flight. Therefore I recommend the use of a SSD, better the use of m.2 SSD (if possible) to ensure fast loading.
Even if you use only standard scenery it could be a "quick win".

Hardware

There are many discussions about the "perfect" hardware, well, it depends on how much you want (or could) afford for flight simulation. As an example, here are some actual components of my PC:

- Mainboard Asus RoG Maximus X Hero
- Intel Core i7-8700K 5 GHz OC
- Water cooling AIO Arctic Liquid Freezer 240
- Asus RoG Strix GTX1080Ti OC 11GB VRAM
- 64 GB RAM Corsair Vengeance DDR4-3000
- SSD Samsung 960 Evo m.2 1 TB for X-Plane 11

With this hardware and the settings below, I have average fps of 30 – 70 on a 4k TV.

If you upgrade or buy a new computer, you have to check if the system in total and the single components fit together to avoid spending much money for a top graphic card and having the bottleneck elsewhere, like in the CPU or memory. I follow the talks in some threads about the perfect hardware, it's more difficult to find the perfect "affordable" hardware.

X-Plane settings

Various settings influence the performance and look of X-Plane. If you have issues running **X-EUROPE**, first reduce number of world objects in the settings.
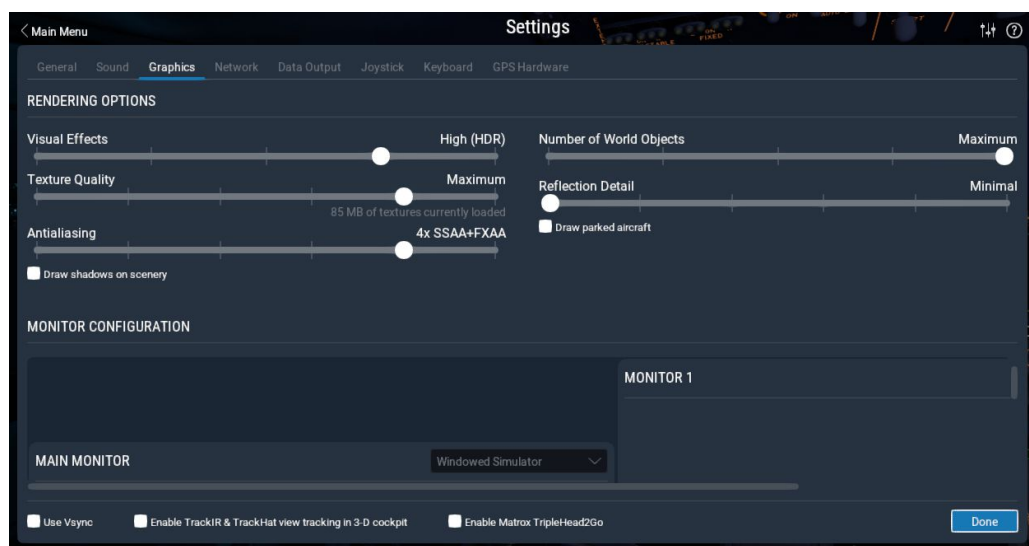
This is an example of Frankfurt city, for reducing settings from Maximum, High to Medium::

Maximum:

High:

Medium:

Graphic card settings

Check if the settings allow a high performance, if power management mode is set to maximum performance and even other settings.

X-EUROPE

X-EUROPE consists of 3 different layers:

Layer 1 - extras

This is the layer having extra elements, deactivate this layer if your hardware is at the limit. This layer has objects like caravans on camping sites, cars and trucks on parking sites, allotments. It isn't necessary, but it's nice to see. ☺

Layer 2 - scenery

This layer is the main scenery, includes all houses and buildings, forests and trees, landmarks like stadiums, churches, chimneys, wind turbines, cranes, masts and towers, tanks, sea marks, piers and boats. This layer is necessary, don't disable this! ;)

Layer 3 - network

As written above, I don't recommend this unprocessed network. If it's disabled, all network for roads, railway, power lines and aerials come from the scenery below, this could be the standard scenery or maybe the HD mesh scenery or if you have orthographic sceneries like Ortho4XP, it comes from the overlay which is probably derived from the standard scenery.

In these basic sceneries, the network is processed to increase performance and reduce data. Processing means, that the number of reference points e.g. for a road is reduced which leads to more angular roads, which could have the effect shown in this screenshot:

As you see, some roads are not exactly following the roads of the orthographic scenery. OSM doesn't know anything about the processed roads of X-Plane, all buildings and objects are set to reality, therefore you could have houses intersecting roads.

If you don't like it, activate this layer 3, you may have a performance drop, but the roads and railroads will then exactly follow the orthographic scenery.

X-Plane 10 compatibility

The layer 3 network uses the European network of X-Plane 11 (roads_EU.net). To be compatible with X-Plane 10 – and that's only needed if you use layer 3 network, NOT if you use only layer 1-extras and/or layer 2-scenery of ***X-EUROPE*** – you have to map "roads_EU.net" to "roads.net" of XP10. Simply do this by adding one single line to this file:

"X-Plane 10\Resources\default scenery\1000 roads\library.txt"

Edit this library.txt, search for roads.net (near line 210) and add this line:

EXPORT lib/g10/roads_EU.net roads.net

So the result should look like this:

```
209    EXPORT lib/roads/SecOvrPrV1.obj objects/structures/SecOvrPrV1-1.obj
210    PUBLIC
211    EXPORT lib/g10/roads.net roads.net
212    EXPORT lib/g10/roads_EU.net roads.net
213    PRIVATE
```

Remember: If you update X-Plane 10 (maybe this will not done), and the library.txt is overwritten, the change has to be done again.

Library.txt

X-EUROPE uses (like other simHeaven sceneries VFR-Landmarks) an internal library to make it easy to change objects without new generation of the scenery. With a simple text editor you could add, change or deactivate objects. This could be done for the whole scenery (Europe) or for defined regions, e.g. the Alps or Norway.

The library system of X-Plane allows to define regions by a rectangular (south/east to north/west) or by a bitmap which allows a more precise definition of a region as you could select single tiles in the bitmap. But it allows only to change the whole tile, not parts of it.

The library is used for the localization of *X-EUROPE*, it allows to change objects for a determined region to have a different look. But you also could change objects to your personal needs. E.g. if you don't like a special object, you could change it to another, or you could deactivate this object if you map it to a blank object.

You don't like sailing boats on lakes? Take a look into the library, identify the used element "x-europe/landmarks/sailing_boats.for" and map it to "objects/default/blank.for". The element is still in the scenery, but it isn't shown anymore.

Or you have better objects, then identify the element and map it to your object which you have to copy into the scenery. Remark: if you have better objects, please mail me! ;)

With version 2.0 there are 2 different library.txt provided:

- library - standard.txt
  This is meant for standard od HDv4 scenery users, which will show special ground polygons.
- library - orthographic.txt:
  Polygons for soccer, tennis, golf, parking, beach, sand are set to objects/default/blank.pol

The default library.txt is the library – standard.txt. For changing, simply rename the desired library to library.txt. The library.txt is the valid library for X-Plane.

Problems and issues

At the release of *X-EUROPE* 2.0 there are no known issues. Even the crashes few user had are solved. If you encounter issues, please first check if this is really caused by *X-EUROPE* or maybe by another scenery or add-on. Such as different roads in a single tiles are caused by a custom mesh for an airport (e.g. Aerosoft Zurich).

Additionally, it would be helpful if you first look into OSM (openstreetmap.org) if something is wrong or missing. *X-EUROPE* is generated 100% automatically, not one single part is "hand-made". The scenery could only show what is in OSM.

If any issues occur and they can be fixed easily, there will be an update, please refer to this web page with announcements: http://simheaven.com/faq/

Localization

With the library system it's easy to change objects and other elements of *X-EUROPE*. The second step after release of the default scenery, which is already done when you're reading this manual, will be localizing the elements.

I don't want to write in detail how you could easily change the look of a region, how you can change objects, if you want to do this, helping me and the community, please mail me and I will support you with the necessary information and help.

Help needed

Well, this section is written for all wanting to help to improve the scenery. And I hope, there will be some people helping. Beside the localization, you could help to improve OSM data.

After this release, there will be a time period where you can add or change data in OSM. You may discover things during flight which are missing or maybe wrong, you may see villages where OSM data lacks. This is the chance to do the input in OSM, after a certain period (don't know exactly, maybe two months after release) I will do a second run generating the layer 2 newly on fresh and actual OSM data, then you see all your input in X-Plane. And I try to do this later half a year.

You may view OSM data in 3D, this would help identifying zones to improve in OSM:
http://demo.f4map.com/#lat=51.5022419&lon=-0.1228895&zoom=17&camera.theta=69.694&camera.phi=51.051

The link will show OSM data in 3D for the city of London, UK:

Outlook

The *X-EUROPE* is the scenery I focus on, there are actually no updates planned for any other scenery available from simHeaven.

Some people already have asked to make "X-America" or "X-Australia". The quality of the sceneries is dependent from the quality of OSM data, the more the data the better the scenery looks. If only poor data is available, I only could do autogen sceneries, which you already have. And the second, I've used the European objects of X-Plane, so this would be much more work than some people could imagine.

Last words

Hey, you are reading the end of the manual, one of the few people, that's great.

I assume you like the work and the scenery, maybe you have found some useful things in this manual. If so, consider how much work it was for me and my team, consider the quality and total area of X-Europe bringing fun and realism to your flights, consider the value of payware sceneries or airports you may have. If you want to support me and my work, help me covering costs for servers, software and plugins, then buy me a beer or make me drunk, make a donation to simHeaven

https://www.paypal.me/simheaven

Thanks, all the best,
happy flights and landings,

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