So here it is: uninterrupted in-game footage showcasing the E2 Engine for the first time and a taste of the quality that users can expect in the future with Phase 3. We have released this video for all of our amazing supporters who have been waiting so patiently to view it, but also for validation to prove the E2 Engine does exist and already runs a highly performant terrain system capable of streaming the world, an engine that has been built over many years. This is the first glimpse of the future and what Phase 3 and beyond will look like, and it is only the beginning.

Let us explain to you what can be seen on it - and what makes it so special.

Commencement of Phase 2 is almost upon us but during Phase 2, a dedicated team will continue working on Phase 3. Our goal for Phase 3 is to render earth size planet terrains with extreme vegetation and details reaching maximum performance, where movement can be very fast without loading and any popping artifacts, while the terrain needs to look great from any camera angle and altitude without texture tiling artifacts. The terrain system is part of the E2 Engine which is built on top of the Unity game engine. We chose Unity because it's known for being very versatile, easily expandable, the King of iteration and being suitable for big teams. Fast iteration helps a lot in reducing the development time, as we need to do a lot of technical research/implementations and work on many systems in parallel for our ambitious project.

What we show in the video is only the beginning, but it clearly demonstrates just how advanced the Earth 2 Phase 3 development is at. Nathaniel, the Earth 2 Lead Game Developer who lives in the location shown, has been responsible for its development and has done an outstanding job! The in-game footage has also been recorded by Ferran, the Earth 2 Lead Technical Artist. This video displays an example of what one biome - one of many - in Earth 2 will look like and is the same build that Shane, the Earth 2 CEO uses to find peace escaping Earth 1.

Earth 2 will have the approximated look of Earth 1 with its many biomes like grassland, forest, tropical, desert, tundra, marine, etc. Having achieved this to date, imagine what we can do once our team expands and we continue to board developers with similar skills and build out Earth 2, the massive immersive alternative reality where you can truly be limitless and free, at any place of your choosing without some of those limitations and issues of Earth 1.

Although what we have created to date is certainly spectacular, improvements are constantly being made - terrain shadows, smooth Level of Detail transitions on the objects, volumetric lighting, more advanced placement, better 3D models, improved shading, etc. This video is

created to show what our team can do and what our concept and the future of the Earth 2 project may look like. We will continue to prove that we have the capabilities to achieve all that we have set out to achieve! We are in this for the long haul and are glad to have you all as part of the journey!

Platforms, Hardware and Performance

Performance is very important for us, as we want to support the widest range of hardware and platforms possible while we aim for massive immersion. The terrain system and object rendering system of the E2 Engine are extremely optimized, using all kinds of innovations to render outside of the box, giving many magnitudes more performance then traditional rendering. We feel that Earth 2 is around us and we want the players to experience the immersion of Earth 2's virtual reality metaverse. Phase 3 will start with PC but we will support many more platforms. The VR platform is definitely one of the main ones we want to support for maximum immersion.

Lower Hardware

You might think the E2 Engine will fry your GPU, but that's not the case as it's extremely optimized. For example, the entire terrain mesh is rendered with only 8 draw calls and 1 material without using any tessellation. The terrain system is very downscale-able for lower hardware and lower settings still gives a great look:

- Terrain mesh and height map itself can be halved in resolutions like ½, ¼, ⅛, etc. Each downscale gives 4x less polygons to render.

*Full terrain mesh^*

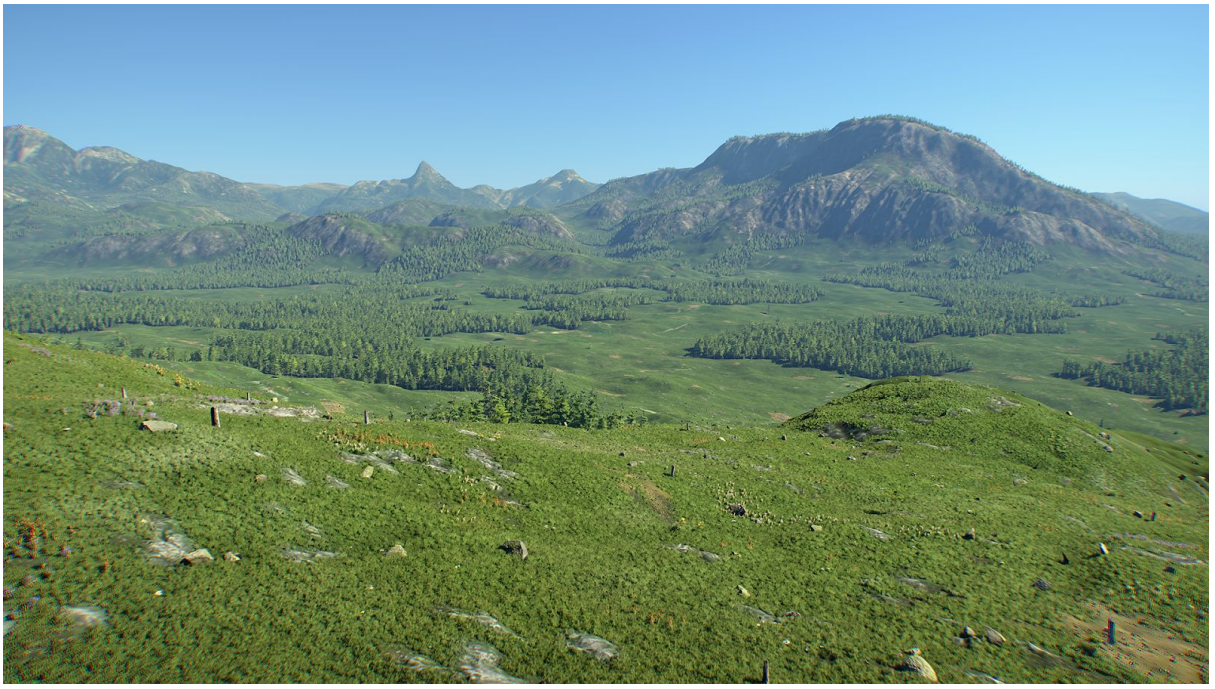
*Half terrain mesh with 4x less polygons, not much difference^*

- Texture quality can be halved in resolutions like ½, ¼, ⅛, etc.
- The close up view detail of the terrain mesh can be chosen.
- The close up view detail of the terrain mesh can be chosen.

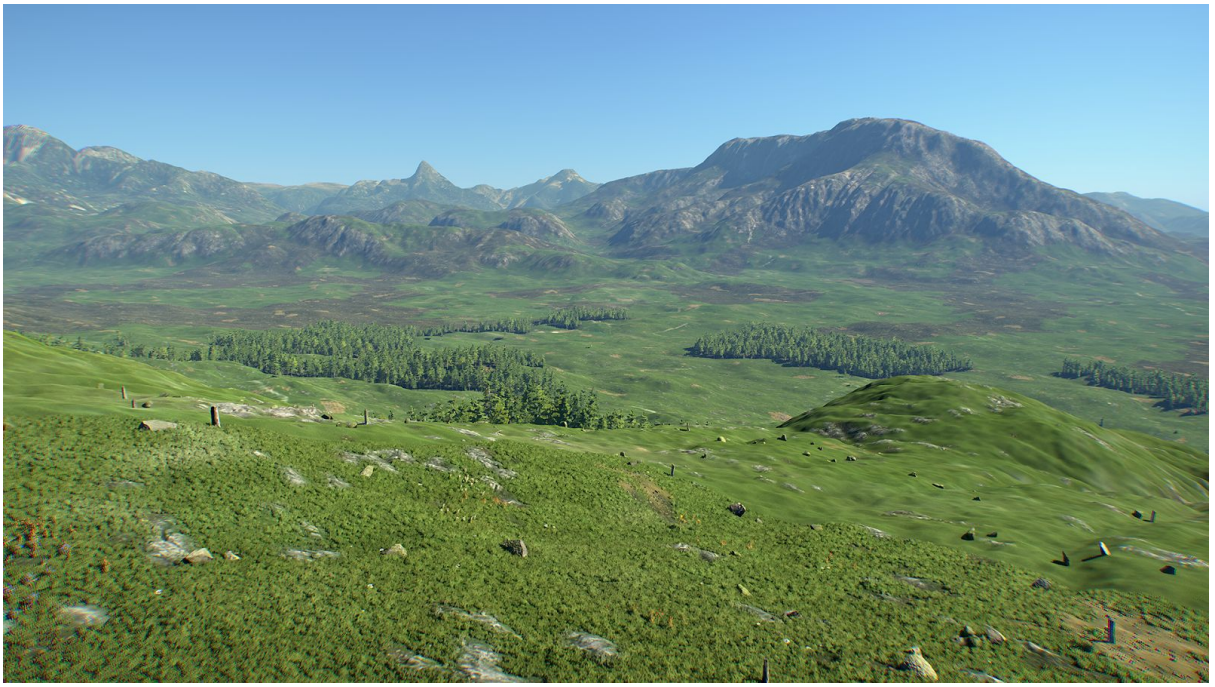
*0.17cm terrain heightmap detail with high density objects^*

*2m terrain heightmap detail with low density objects^*

- The terrain system automatically adjusts the close up detail of the terrain mesh when moving with higher speeds, which doesn't make a difference in the look but actually renders and streams it faster.
- The draw distance of the terrain mesh can be chosen.

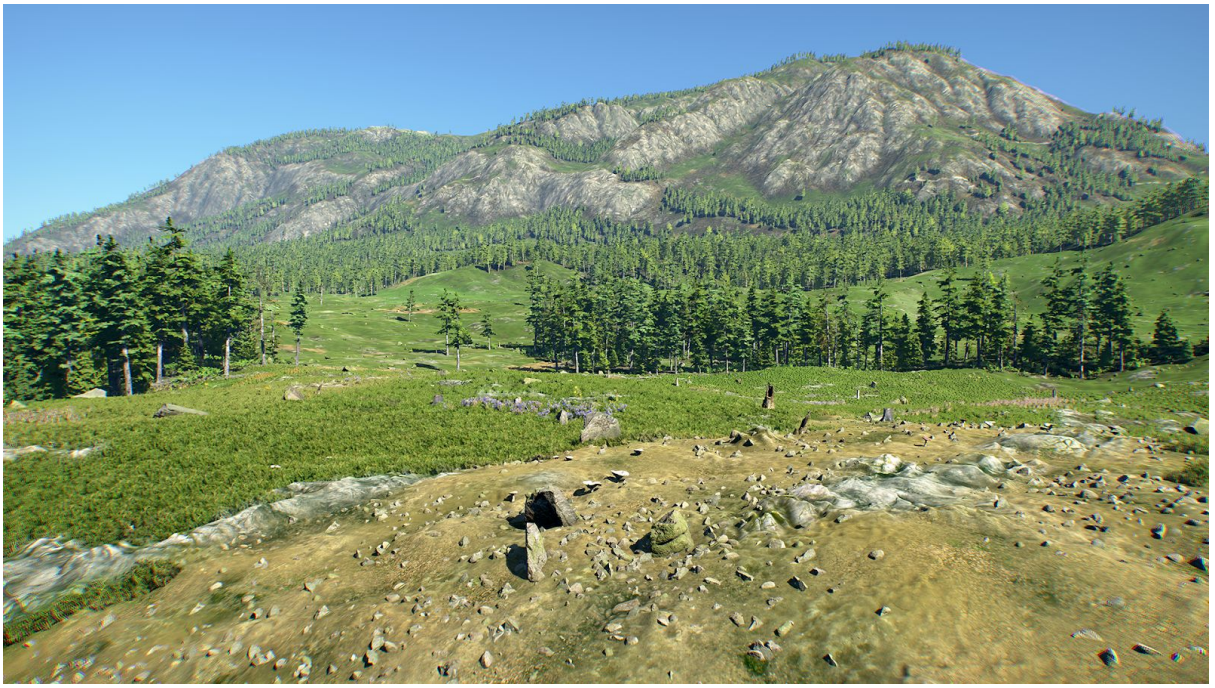


*Far draw distances^*

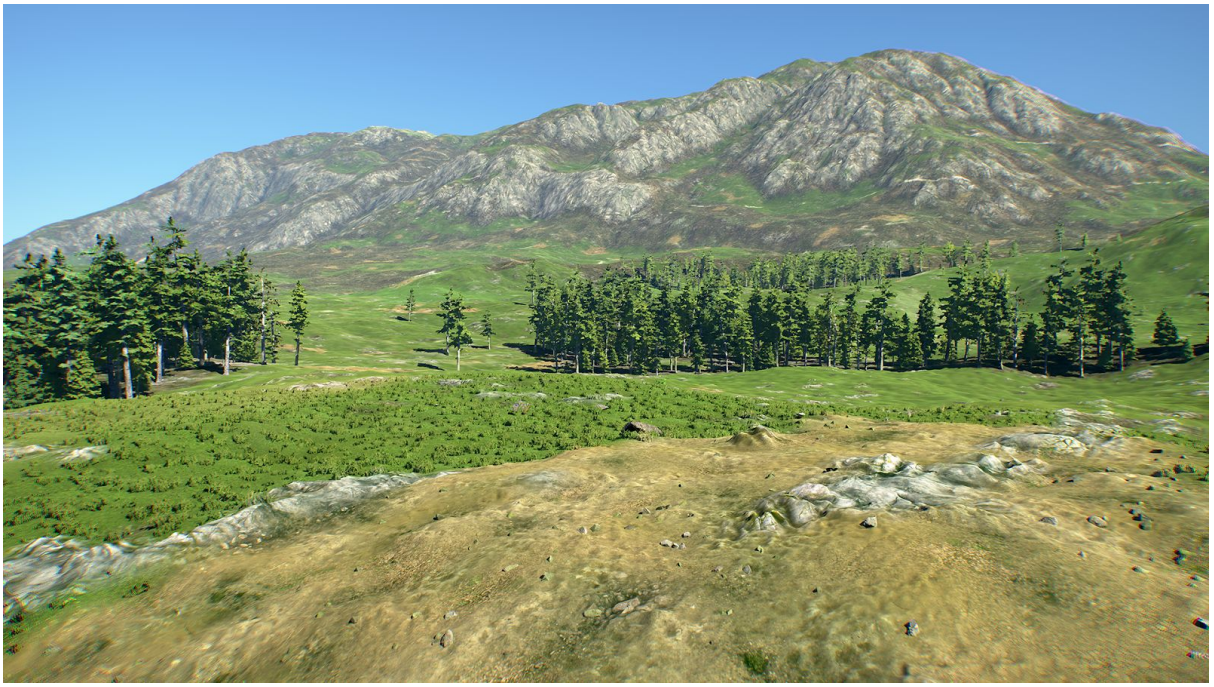


*Lower draw distances^*

- The draw distance of the objects can be chosen.
- The lod distances of the objects can be chosen.
- The density of objects that are not important to sync across players can be chosen.



*Full density with high draw distances^*



*Lower density and draw distances^*

- All reductions in the above, not only reduce the geometry needed to render, but also reduces a lot of the memory needed on the CPU/GPU.

What's in the video

- Renders and streams the area where the alps starts near Salzburg around Grossgmain in Austria as well as around Bad Reichenhall in Germany.
- The detailed example we have shown here is 32km2, but the terrain system can easily handle endlessly moving around the entire world.
- We will release further details about the E2 Engine and its terrain system in the future but would like to, for now, keep one step ahead by keeping our precise advancements confidential for now.
- One final note, our recreation has also proven something else .. "no", it's not flat!

We hope that our goals and dreams will translate into your goals and dreams and that your imagination can start to run wild with the possibilities we envisage Earth 2 bringing to the world. Thank you for your support and belief, it is a driving force for the whole Earth 2 team and we genuinely get excited each time we work on something new for our extended family, you!