



DITTO - MAY 5TH 2022 DIGITAL TWINS AND COLLABORATION WITH OMNIVERSE

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DATA HOMOGENIZATION VIA USD



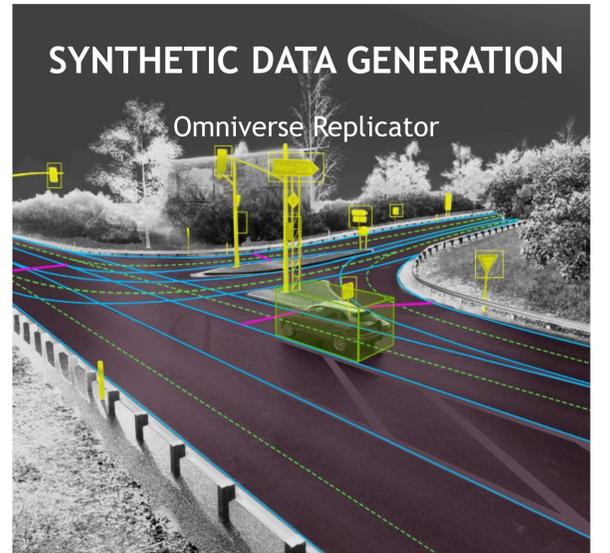
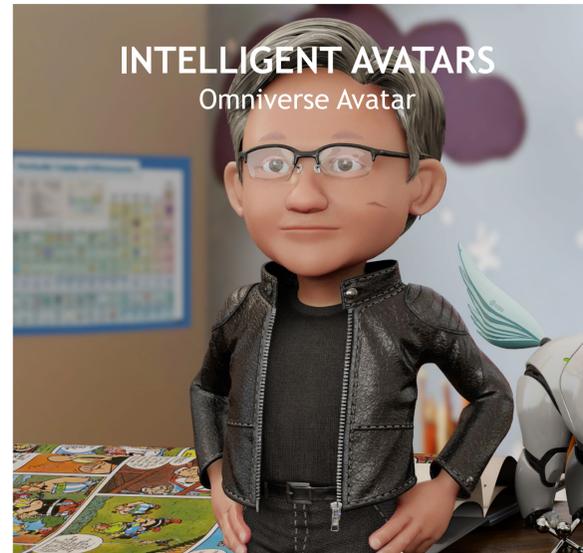
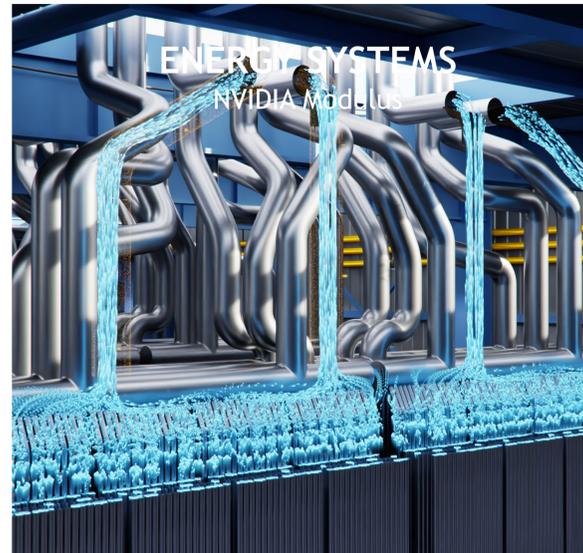
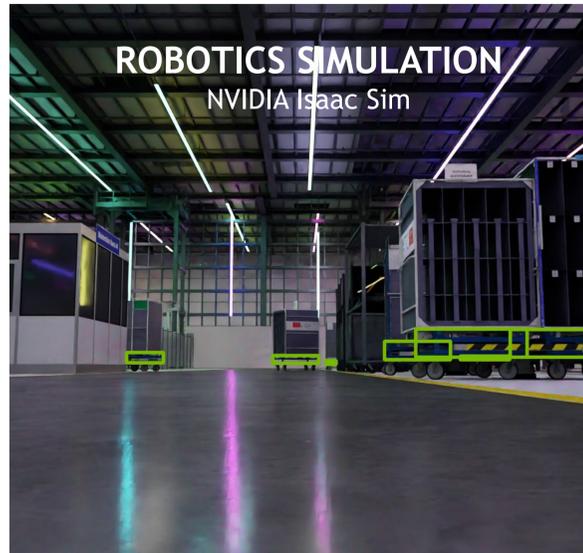
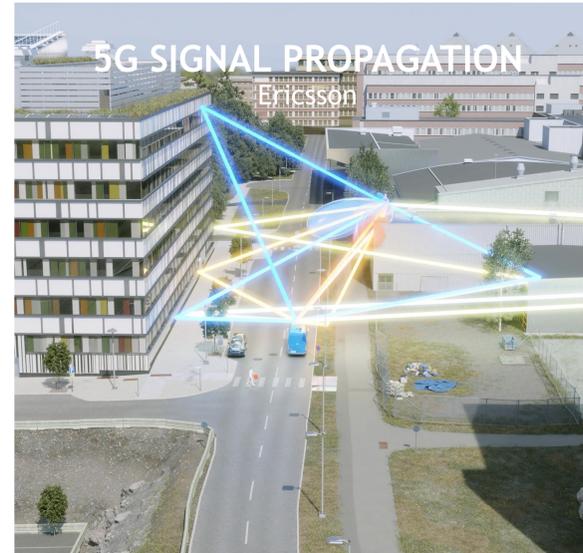
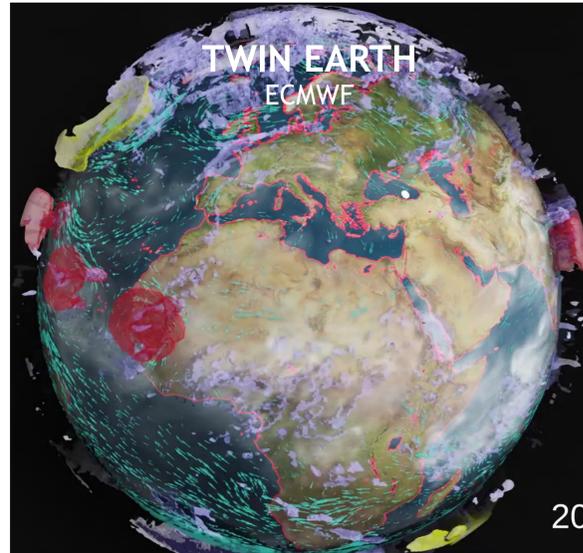
UNIVERSAL SCENE DESCRIPTION

The “HTML” of 3D Virtual Worlds

- ▶ Developed by Pixar
- ▶ Foundation for NVIDIA Omniverse
- ▶ Open-sourced API and file framework for complex scene graphs
- ▶ Easily extensible, simplifies interchange of assets between industry software
- ▶ Introduces novel concept of layering
- ▶ Enables simultaneous collaboration for large teams in different department working on the same scene
- ▶ Originated in M&E, now becoming a standard across industries including AEC, Manufacturing, Product Design, Robotics

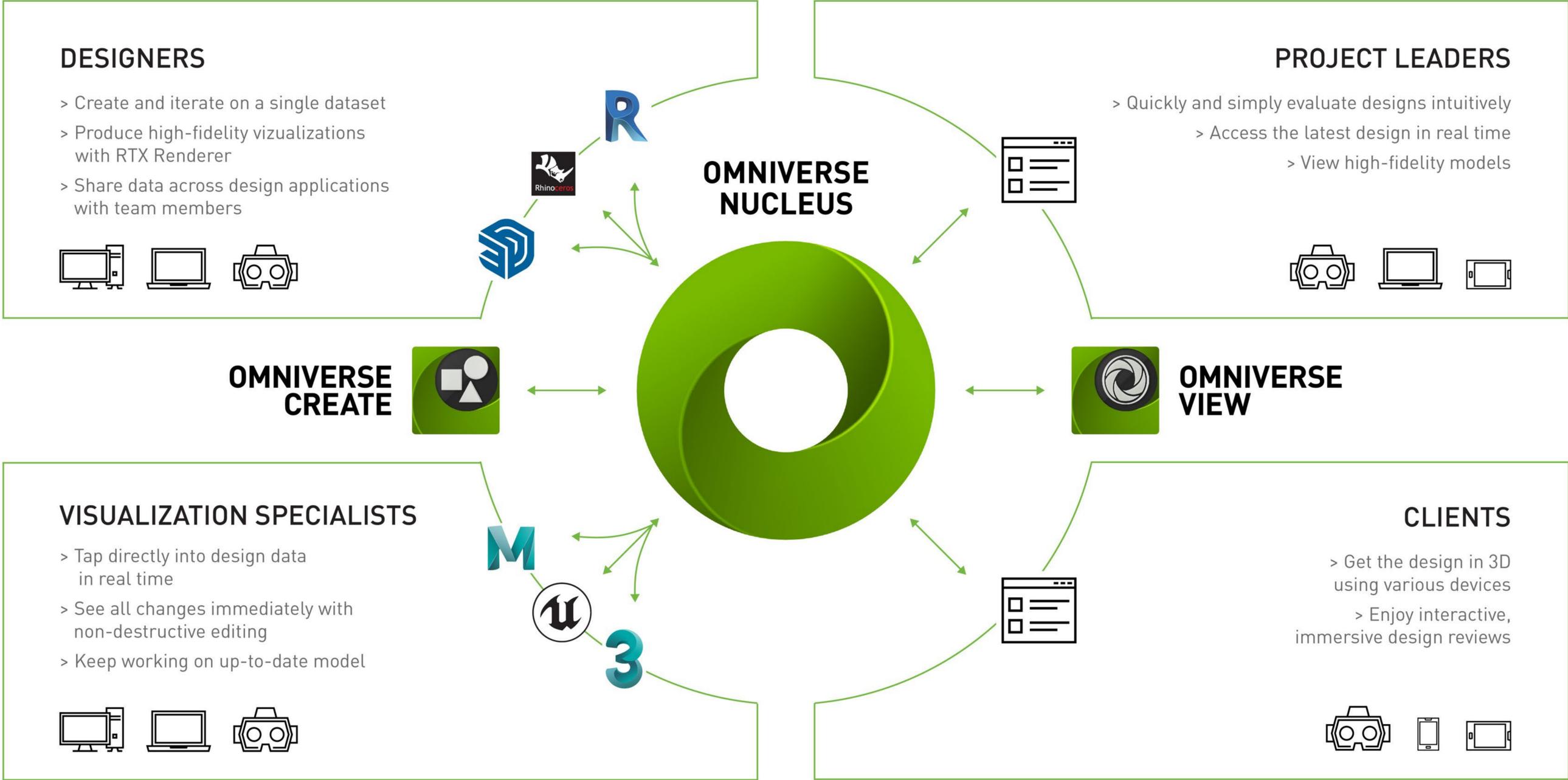


OMNIVERSE DIGITAL TWINS ARE SOLVING OUR GREATEST CHALLENGES



NVIDIA OMNIVERSE ENTERPRISE FOR DESIGN COLLABORATION

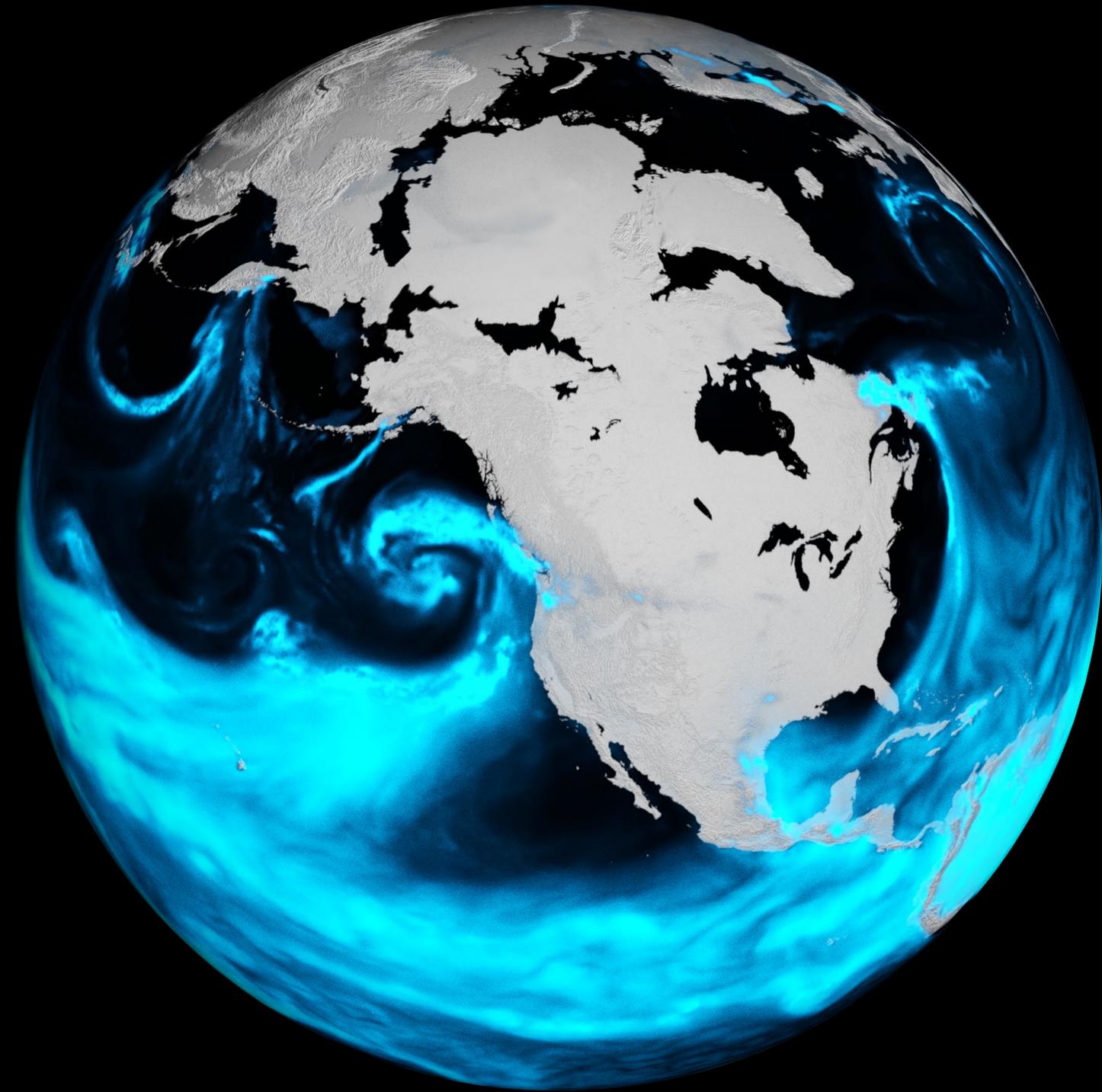
Architecture, Engineering, Construction, Operations Teams



THE EARTH-2 INITIATIVE

We will build a Digital Twin Earth to Plan our Future under Climate Change

- We aim to build a digital twin of the earth
- It will predict extreme weather and climate at sub-km resolutions.
- It should enable detailed planning to minimize damage and suffering.
- We aim to support 1000s of use cases: extremes, agriculture, energy, more
- It should be fast, interactive, easy to use, and customizable for each use-case
- AI surrogates enable instantaneous predictions
- This enables interactive visualization, analysis, optimization, and portability
- The model should enable concrete planning for important decisions
 - How can we maximize output food under climate change conditions?
 - What can we do to maximize freshwater availability?
 - How can we minimize fire/flood impacts?
 - How many natural disasters can we expect at a given time, place?
 - Can we improve air/ship traffic for efficiency, climate?
 - Where should new energy powerplants be built?
- This effort is funded by NVIDIA to try to help solve climate change
- It is not profit driven.
- However, it will eventually need to generate some income to sustain itself.



- <https://www.nvidia.com/en-gb/omniverse/> - Why, how, who else
- <https://developer.nvidia.com/nvidia-omniverse-platform> - Tools to enable your development
- Feel free to get in touch - smcguire@nvidia.com