SUCCESS STORY | THEIA INTERACTIVE

THEIA INTERACTIVE BRINGS NEW LIGHT TO REAL-TIME CONFIGURATORS WITH NVIDIA RTX AND AI

Image courtesy of Theia Interactive

NVIDIA

Theia Interactive use NVIDIA DLSS and RTXGI to generate photorealistic images and interactive scenes for clients.

Image courtesy of Theia Interactive

SUMMARY

- Theia Interactive specializes in creating custom configurators designed for viewing a broad range of design options in interior spaces.
- The Theia team used to create static or built lighting so their imagery looked as realistic as possible, but using a configurator in a built environment presents multiple challenges.
- With NVIDIA DLSS and RTXGI, running on Quadro RTX 5000, Theia Interactive created a high-fidelity custom configurator that lets teams view models in any lighting environment in real time.
- The NVIDIA technologies allow the team to respond to requests immediately during reviews, and make a variety of lighting changes on the spot.

CHALLENGE

Theia Interactive has created award-winning visualizations for hundreds of enterprise clients (including many Fortune 500 companies) in the AEC (architecture, engineering, and construction), automotive, aerospace, and manufactured products industries. In addition to pioneering the use of real-time rendering for non-game Extended Reality (XR) and interactive development, Theia also specializes in creating custom configurators designed for viewing a broad range of design options in interior spaces, such as hotel rooms or office environments. Previously, the Theia team used static or built lighting so that their imagery looked as realistic as possible.

However, using a configurator in a built environment presents multiple challenges—3D meshes changing shape, shadows not lining up, and materials reflecting different lighting and colors. Because the lighting is baked in, it's difficult to test out multiple lighting scenarios.

Theia could have pre-baked all of the configurator customization options, but that would have resulted in thousands of configurations for custom models. So pre-baking all of those options would have been nearly impossible. The team needed a solution that increased efficiency and productivity while allowing them to produce photorealistic imagery.

SOLUTION

By integrating NVIDIA Deep Learning Super Sampling (DLSS) and RTX Global Illumination (RTXGI), and running on NVIDIA RTX™ 5000 professional GPUs, Theia Interactive created a high-fidelity custom configurator that lets teams view models in any lighting environment in real time. DLSS is an AI rendering technology that uses deep learning neural networks to boost frame rates and generate sharp images.

CUSTOMER PROFILE

theia

Organization:	**Industry:**	**Founded:**	**Location:**	**Website:**
Theia Interactive	Software and Services	2014	Chico, CA	www.theia.io

Image courtesy of Theia Interactive

SOFTWARE

NVIDIA DLSS

NVIDIA RTXGI

HARDWARE

Quadro RTX 5000

REASONS FOR NVIDIA

- NVIDIA DLSS is an AI rendering technology that uses deep learning neural networks to boost frame rates and generate sharp images.
- NVIDIA RTXGI allows users to achieve multi-bounce global illumination without bake times, light leaks, or excessive performance requirements.

"With NVIDIA DLSS and RTXGI, we can now easily evaluate scenes and use the dynamic aspects of lighting. We're able to work faster and therefore, accept more projects."

Matt Shouse,
Chief Operating Officer
at Theia Interactive

RTXGI is an SDK that allows users to achieve multi-bounce global illumination without bake times, light leaks, or excessive performance requirements. With RTXGI, Theia Interactive can accelerate their design reviews with real-time, ray-traced lighting.

Additionally, the team can use RTXGI and DLSS to meet with designers and lighting architects, and tweak all the light values in a project to get the right look and feel for the virtual reality experience.

IMPACT

Projects used to take up to four months to complete, since Theia Interactive regularly met with clients multiple times per month to review progress. Due to the time requirements for baked lighting, it would take Theia two days to respond to clients requests for modifications to scenes. But with NVIDIA DLSS and RTXGI, the team could respond to requests immediately during reviews, and make a variety of lighting changes on the spot.

"RTXGI was easy to install, and immediately enhanced performance. And DLSS makes real-time ray tracing possible," said Matt Shouse, Chief Operating Officer at Theia Interactive. "Being able to switch to DLSS on the fly is incredibly helpful."

Now, the team has reduced the time it takes for ray tracing and rendering, which means they have more time for faster iterations, and can easily explore different lighting scenarios without baking.

To learn more about NVIDIA solutions for architecture, visit: **www.nvidia.com/aec**

For more information on Theia Interactive, visit: **www.theia.io**

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