

# Dawn of a New Stage: Versatile Media Expands Virtual Production With NVIDIA RTX

International media company is building a revolutionary film studio featuring a virtual production LED volume, powered by NVIDIA RTX technology.

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From script to screen, virtual production is allowing studios and creative teams to tap into new ways to tell stories. NVIDIA is helping one such company enhance its capabilities in virtual production with RTX technology and real-time rendering.

Versatile Media is an international media company, with global headquarters in Hangzhou, China and its North American arm in Vancouver, Canada. The company is building a new film studio in South Burnaby, a suburb of Vancouver that's home to renowned soundstage studios.

The new studio will total 44,000 square feet and include multiple soundstages that are 40 feet high. It will also house Versatile's first permanent virtual production LED volume in Canada, which is promised to be one of the largest feature-rich LED stages in North America.

LED volumes are 3D stages that use LED panels as walls, floors or ceilings to quickly surround the cast and crew with projected and immersive background scenery. Versatile Media's LED volume will have content created and rendered in Unreal Engine , and the display systems will be powered by NVIDIA RTX A6000 graphics.

With NVIDIA RTX technology behind their real-time graphics and virtual sets, the team at Versatile Media can accelerate their creative workflows and enhance virtual productions for upcoming projects in the studio.

To bring a movie or TV show to life, the traditional creative process consists of three phases: pre-production, production and post-production. With the latest technologies, studios and creatives can merge those three phases into one: virtual production.

In fact, Versatile's latest project was created specifically to highlight its commitment to the script-to-screen virtual production workflow. New Air , a sci-fi short, was produced in 10 days, with four of those days in principal photography on the LED stages. The production used over 60 NVIDIA GPUs to keep up with the filming requirements.

Versatile Media is bringing innovation to virtual production with its new purpose-built LED panels, as well as full lighting and color-grading controls across the entire volume. The team is also using intelligent focus-pulling, which provides physically accurate lensing between the physical and virtual worlds.

Its Vancouver LED volume will consist of 12,000 LED panels, creating a 270-degree cylindrical volume that spans nearly 85 feet of diameter, with a connected, flat, 34-foot-high ceiling.

And with NVIDIA RTX A6000 GPUs powering and synchronizing the graphics and displays, Versatile Media experiences many benefits, including:

- real-time rendering and physically based simulation

- large GPU memory and bandwidth to support real-time rendering, even with massive datasets with complex geometry and high-resolution textures

- synchronization across multiple cluster nodes running VX rDisplay, Versatile's custom cluster communication and synchronization tool. This avoids tearing between LED seams and ensures the

camera only captures the correctly rendered frames on the LED wall.

and, an enhanced workflow with a virtual art department (VAD), which optimizes creativity, time and efficiency by enabling remote production and collaboration with the artists on set.

Using NVIDIA RTX, teams can film, composite and render high-quality visuals in-camera in real time, rather than waiting months for a post-production crew to render and composite the results. The new stage will enable Versatile to provide full-cycle, virtual-production pipeline services, including virtual location scouting, pre-visualization, techviz and a VAD.

Versatile Media is expanding globally to include a 12-acre film base near Hangzhou, China, that will house five LED stages in addition to performance stages and an R&D; center.

The company collaborated with Absen to create two custom LED panels that can support filming up to 120 frames per second, as well as multiple cameras filming with 8K in-camera resolution.

A key innovation of Versatile's stage tech is to allow for full-resolution, real-time rendering with no latency, bridging seamlessly between the virtual and physical worlds. Versatile's R&D; team further worked to resolve the moiré effect completely, allowing the panels to be filmed from any angle while in focus and up to six feet away.

Versatile is also diving head-first into AI technology with a new facial system that provides photorealistic results. Additionally, the company is developing a real-time system that captures both cloth and muscle movement. Versatile even has a new AI system that will motion capture hands and fingers, which has been notoriously difficult to do in the past.

Learn more about innovations at Versatile Media by watching the video below:

Virtual production is the way of the future — learn more about it at SIGGRAPH .

Watch NVIDIA's special address at the trade show to see the latest technologies in graphics, AI and virtual worlds.

Learn more about virtual production workflows and see how technologies like NVIDIA Omniverse , the real-time collaboration and simulation platform, can help teams create at the speed of imagination.

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