



What is Virtual Production

Virtual production is an all-encompassing term for a range of filmmaking techniques that allow creatives to interact with the digital side of production just as they do with live-action, enhancing creative problem-solving and enabling new forms of collaboration and visualization. At GEM, virtual production represents a modern approach that connects every stage of the filmmaking pipeline—from pre-production through post—and inspires advanced, integrated planning throughout the process.

What Is Virtual Production?

Virtual production techniques include:

- **World Capture:** Digitizing real-world locations and sets for use in a virtual environment.
 - **Visualization:** Tools like previs (previsualization), techvis (technical visualization), and virtual cameras allow early mapping and creative exploration.
 - **Performance Capture:** Recording the movements of actors using technologies such as mocap (motion capture) and volumetric capture to animate digital characters.
 - **Simulcam:** Real-time on-set visualization that blends live-action footage with digital elements.
 - **In-Camera Visual Effects (ICVFX):** Shooting on LED volumes so filmmakers interactively design digital backgrounds and effects during filming, rather than in post-production.
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GEM's Approach

At GEM, virtual production is not just a tool—it's a connected approach across every phase of a project. By planning with virtual production in mind, productions can bridge the gap between departments, reduce costs and time, and empower crews with tools to adapt quickly and realize ambitious creative visions.