# ARCHITECTURE FIRM BUILDS STRONGER FOUNDATIONS WITH REAL-TIME RENDERING

Image courtesy of Kengo Kuma and Associates

Kengo Kuma and Associates uses Quadro RTX-powered HP Z8 Workstations to produce realistic CG images of architectural designs.

"The rendering speed is very impressive. If we want the details of a design to be expressed clearly, the amount of rendering information will be large. But the Quadro RTX-powered workstations deliver enough power to dramatically increase the rendering speed, therefore improving the design process for our CG team."

—**Tomohiro Matsunaga,** Chief Project Manager and Lead Engineer for 3D Modeling at Kengo Kuma and Associates

## CHALLENGE

To create groundbreaking designs, you need groundbreaking technology. That's why **Kengo Kuma and Associates** (KKAA), one of the most famous architecture design firms in Japan, seeks out innovative solutions to help them create precise, detailed images with computer graphics (CG). The company's recent projects include the collaborative design of the **National Stadium** for the 2020 Olympics and the **Takanawa Gateway** Station, the latest station on the Yamanote line in Tokyo. KKAA has a dedicated team of CG artists who use the latest tools and applications to create realistic visual designs. When working on projects, it's important they can create designs quickly but also instantly respond to requests and changes from clients. KKAA needed a solution that allowed their artists to bring designs to life and interactively collaborate during the design process. That's why they turned to GPU rendering.

## SOLUTION

With **NVIDIA Quadro RTX™ 5000** powering **HP Z8 Workstations**, the CG team can achieve the highest rendering quality and design photorealistic visualizations with accelerated production time. The HP Z8 Workstations deliver the performance KKAA needs to convert massive 3D design data of buildings into CG images. The Quadro RTX GPUs provide the designers with powerful computing horsepower to create realistic renders in a short amount of time, with accurate reflections that can react to design modifications in real time. The KKAA designers are also exploring virtual reality (VR) and incorporating immersive environments into their design reviews. Quadro RTX transforms the review process for the team and their clients, allowing them to see designs in a virtual environment and view changes instantly.

## IMPACT

NVIDIA Quadro RTX enables the KKAA designers to easily render tens of millions of polygons in a dataset. The GPU accelerates design workflows and significantly reduces production time, giving the artists more opportunities to iterate and create highly detailed, photorealistic CG representations of architecture. When previously using CPU, it would take 90 minutes to render a final frame high-resolution image. With GPU-rendering, producing that final frame image only takes 20 minutes. KKAA uses Chaos Group's V-Ray Next software in their development stage for projects, which lets them produce high-quality rendered images faster than before. The artists can easily leverage NVIDIA RTX™ support in V-Ray to achieve accelerated ray tracing and AI-accelerated denoising, resulting in noise-free images that are rendered in seconds.

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

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