



NEOSCAPE



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Producing stunning, photorealistic visual effects from anywhere.

Video is a key component of Neoscape's storytelling, and the company is always looking for ways to push the boundaries of quality, realism and resolution in its creative projects. With Lenovo ThinkPad, ThinkStation and ThinkSystem solutions with powerful NVIDIA® Quadro® RTX GPUs, Neoscape has slashed rendering times for animations from hours to minutes and enabled mobile working.

Lenovo



nVIDIA.



Founded in 1995 and headquartered in Boston, MA, Neoscape is a creative studio with offices in Boston, Chicago, Dallas, New York and San Francisco. For 25 years, the company has crafted branded experiences of built environments for discerning clients around the world.

A full-service creative agency specializing in the real estate industry, Neoscape uses strategy, design, and technology to fuel its client storytelling. Video plays a pivotal role in many of its projects, and the company's in-house designers, directors and animators use cutting-edge 3D modelling and animation tools to create compelling work.

Pushing the boundaries

In the last decade, graphics processing and digital display technologies have advanced dramatically. As a result, client expectations around the quality, resolution and realism of computer-generated video have never been higher.

Carlos Cristerna, Principal and Research and Development Lab (RadLab) Director at Neoscape, takes up the story: "Recently, we've been working more with public-facing projects, such as sales centers, art installations and other visual experiences. As the ambition and scope of our client projects has increased, so has the volume of data and time spent on rendering."

Robert MacLeod, President of Neoscape, continues: "Not long ago, a client based in New York City approached us with one of our biggest video projects to date. The aim was to build a unique visual experience for two elevators that would take customers to the highest observation platform in the western hemisphere."

Creating breathtaking visuals

MacLeod continues: "To realize our client's vision of a photorealistic panorama of Manhattan revealed during the elevator rides, we needed a way to render around 70,000 frames of animation in 8K resolution—a big technical challenge."

Neoscape currently relies on workstations and render farms powered by CPUs to render its projects. To accelerate rendering times, particularly for next-generation video projects, Neoscape decided to add GPUs to hardware—and in some cases, to replace CPUs with GPUs completely.

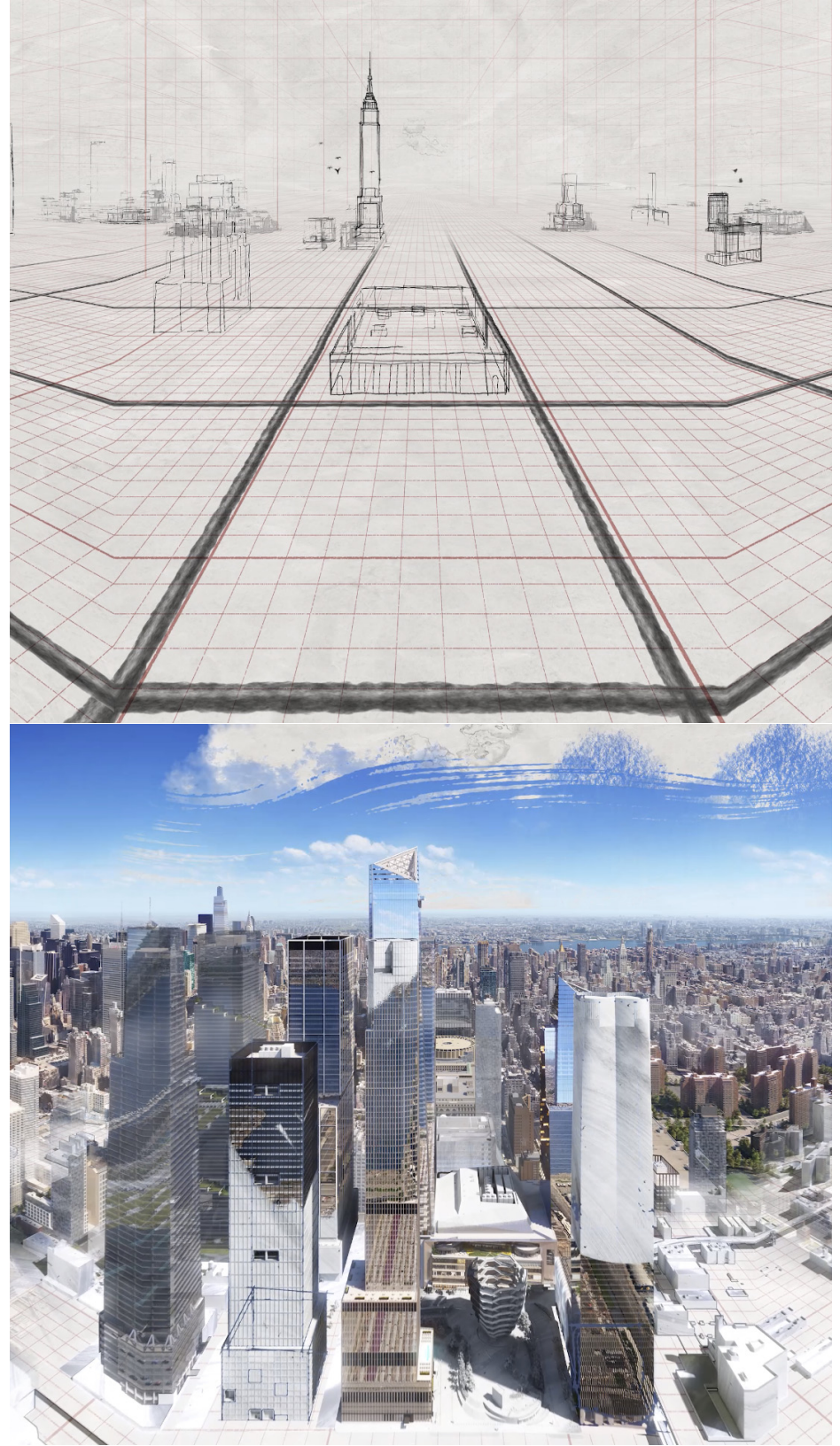
In addition to faster rendering, the company wanted the flexibility to collaborate more closely with its clients. As Dave Parmenter, Art Director at Neoscape, explains, “It’s extremely valuable to have the client sitting next to you discussing a project and providing feedback in real time. However, in practice it can be difficult for busy clients to carve out the time to travel to our studio. We wanted a solution that would give us the freedom to take our work out into the field.”

Why Lenovo? Raw performance and true mobility

After considering a number of leading enterprise IT vendors, Neoscape selected a workstation and server platform from Lenovo. The company implemented Lenovo ThinkPad P53 mobile workstations with NVIDIA Quadro RTX 5000 GPUs, Lenovo ThinkStation P520 desktops with NVIDIA Quadro RTX 5000 GPUs and a central Lenovo ThinkSystem SR670 server with four NVIDIA Quadro RTX 8000 GPUs. The Lenovo ThinkSystem SR670 is set up as a bare metal server, enabling Neoscape to use all four GPUs for compute to support rendering.

Working together with the Lenovo Proof of Concept Lab, Neoscape quickly took its solution off the drawing board and into production. The company’s RadLab team now drives its 3D animation workloads on Lenovo ThinkStation desktops and ThinkPad P Series workstations, including demanding applications such as 3ds Max, V-Ray and Project Lavina.

Cristerna says: “One of the first things that we started exploring with NVIDIA RTX technology was the Unreal Engine from Epic Games, which we decided to use as a testbed for our Lenovo ThinkPad P53 laptops. We loaded them up with everything: 3D exteriors, interiors and real-time ray tracing for global illumination, reflection and refractions.”



Cristerna continues: “The beauty of the Lenovo ThinkPad P53 is that they use exactly the same NVIDIA technology as our Lenovo desktops and server in the studio. That means that we can grab live files, pull them onto the laptop, and show clients exactly what we’re working on in full quality, anywhere.”

Real-time rendering, anywhere

With Lenovo and NVIDIA solutions powering its video projects, Neoscape can tackle even the most computationally demanding projects without worrying about rendering times or stability issues.

“Out of curiosity, we decided to try to import our gargantuan Manhattan skyline scene into Project Lavina, a real-time ray-traced environment, running on our laptops,” explains Cristerna. “We felt certain that even our high-performance Lenovo technology wouldn’t be able to handle it.

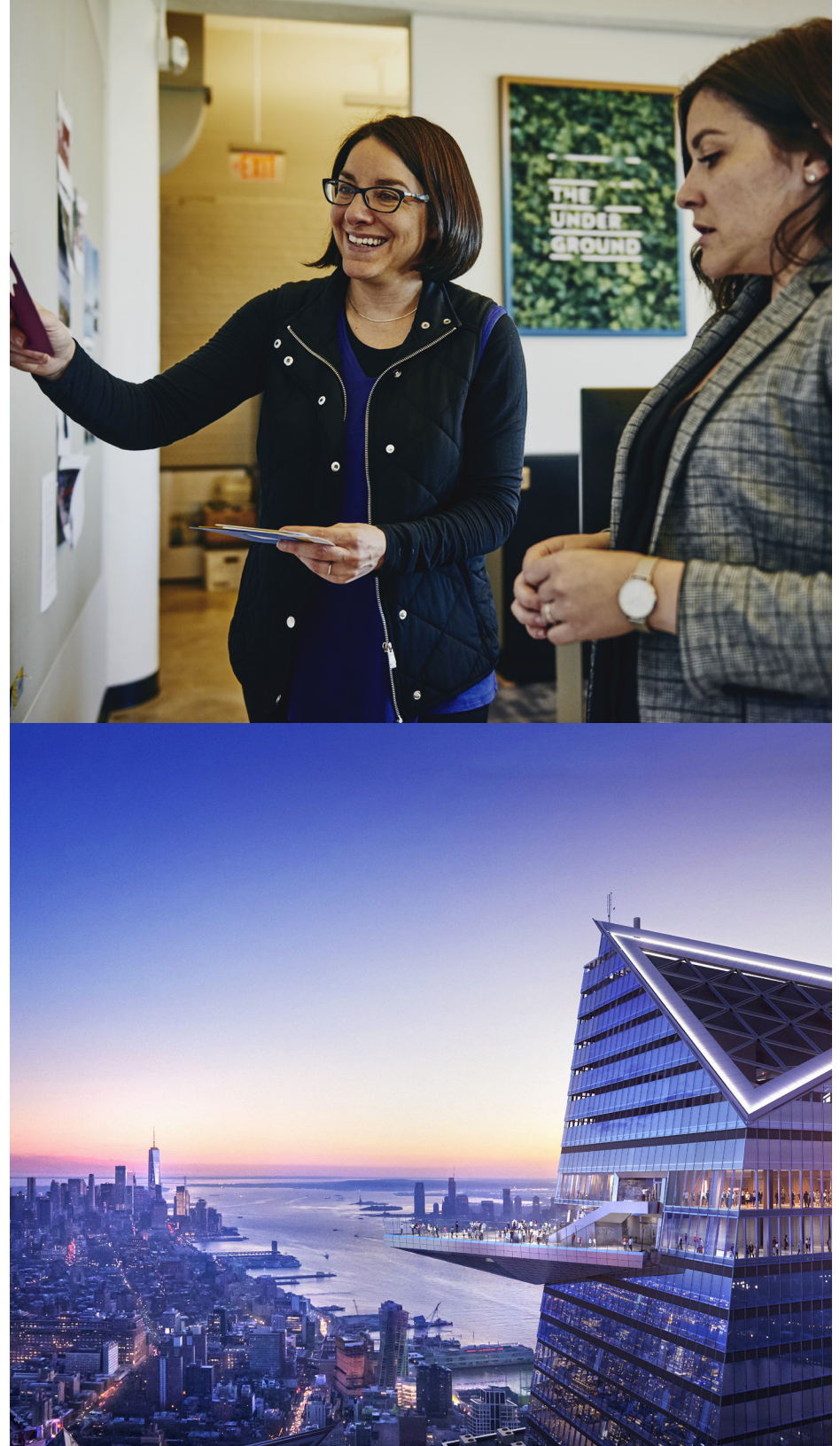
“To our amazement, the Lenovo ThinkPad rendered the scene in real time with almost no issues. In fact, Project Lavina performed so well on our new Lenovo and NVIDIA platform that we decided to do our entire art direction for the client in a real-time rendering environment running on a laptop—a first for our company.”

Lifting performance higher

Since deploying the Lenovo solutions, Neoscape has also measured a significant boost in rendering performance.

Cristerna comments: “Because Project Lavina can take advantage of all NVIDIA Quadro GPU resources on our desktops and laptops, we’ve measured a big reduction in render times. For some scenes, we’ve cut rendering from one hour to just seven minutes—a reduction of 98%.”

Parmenter adds: “When we first got access to the Lenovo ThinkPad P53, it was like night and day. I can work as fast remotely as I can in the studio, if not faster. Processes that previously took hours now complete in seconds. And most importantly, I can work side-by-side with my clients on site.”



Creativity takes flight

In the future, Neoscape plans to configure its Lenovo ThinkSystem SR670 server as a virtual render node using NVIDIA Quadro Virtual Data Center Workstation, empowering creatives to access additional compute and GPU resources from their laptops at the touch of a button. The company also plans to host clients' real-time applications, offering its own private cloud hosting service for clients. This will enable both internal and external users to access RTX technology.

"We see that our scalable GPU architecture will be a game-changer for our team, as it will allow them to activate more GPU power whenever they need it," concludes MacLeod. "This translates into freedom to iterate faster and more frequently: from the creative standpoint, the workflow standpoint, and the storytelling standpoint. Our new capabilities are unbelievably freeing, and I know we haven't even reached the limit of what we can achieve."



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– Robert MacLeod, President, Neoscape



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