



Andrew Rink, AEC Marketing Strategy

 @AndrewRink1

REIMAGINE CITIES OF THE FUTURE WITH NEXT-GEN VISUALIZATION



AI IN AEC

Deep Learning Applications

AUTONOMOUS VEHICLES



SAFETY / INSPECTION

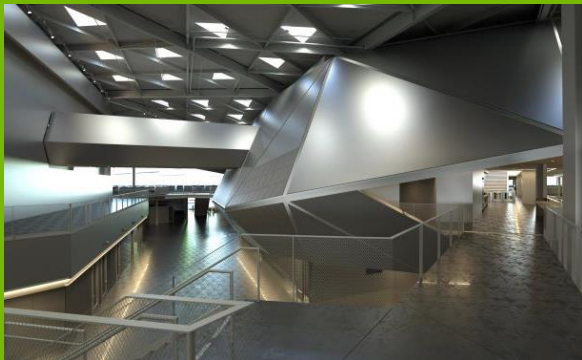


DESIGN SOFTWARE



PROFESSIONAL VISUAL COMPUTING TRENDS

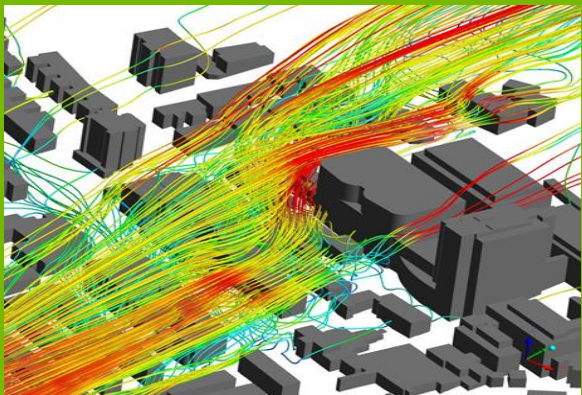
Increasing Render Complexity & Quality



VR Integrated Workflows



Simulation Integrated Design

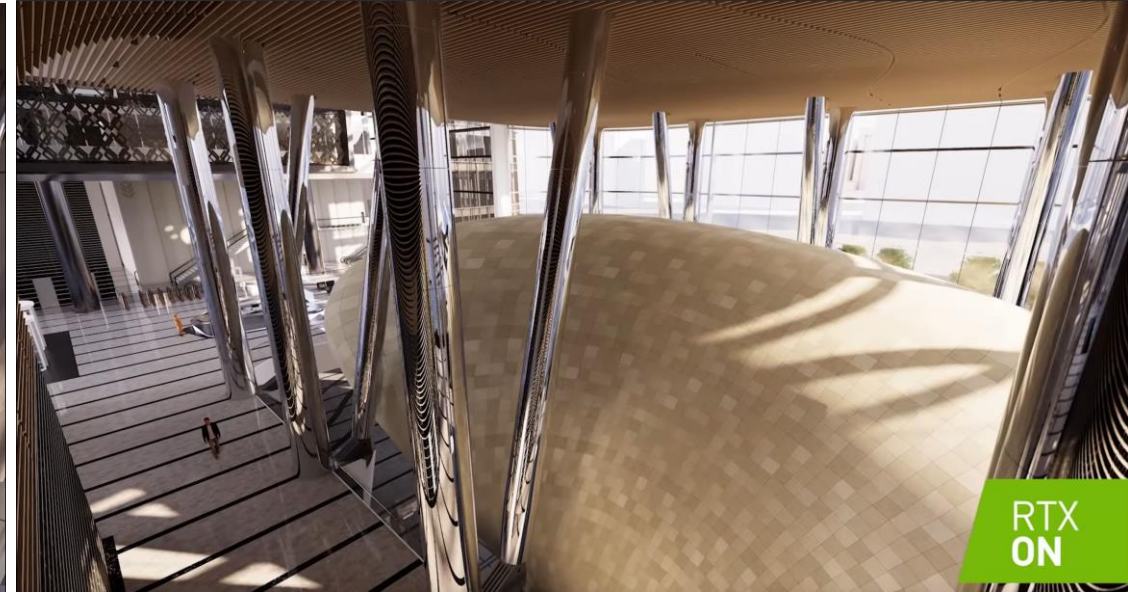
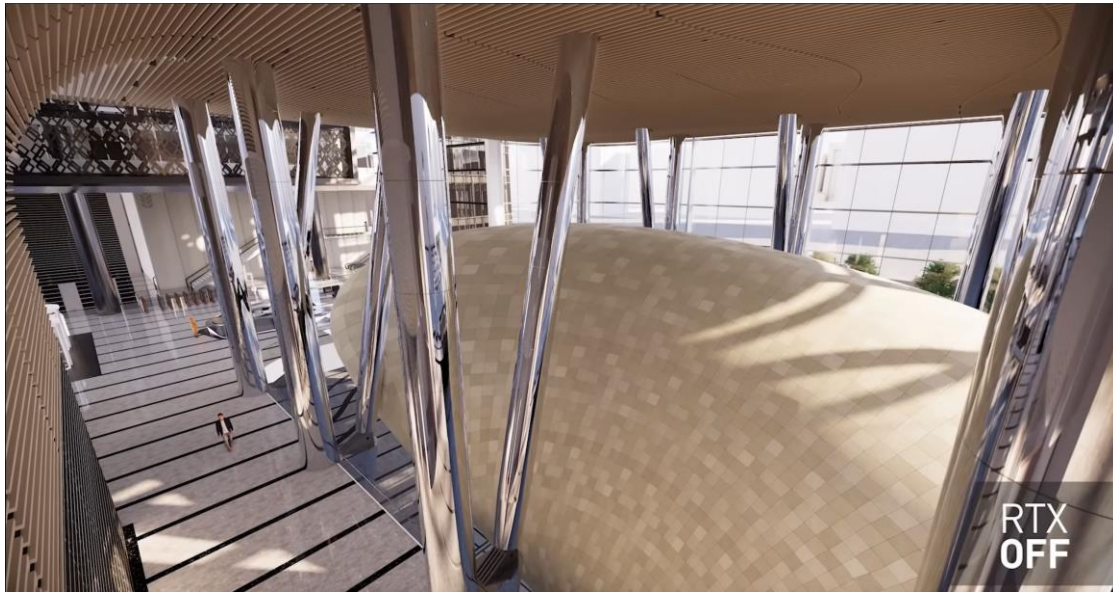


Adoption of AI Tools



NEXT-GEN AEC VISUALIZATION

Cinema Quality Real-time Ray Tracing



VR USE CASES IN AEC

Throughout the AEC Workflow and Beyond



DESIGN/DESIGN REVIEW

Experience Buildings and
Cityscapes in Life-size



CONSTRUCTION REHEARSAL

Improve Planning Logistics and Site
Safety



TRAINING

Practice Maintenance in
Realistic Environments



MARKETING & SALES

Immersive Preview and
Purchase Experiences

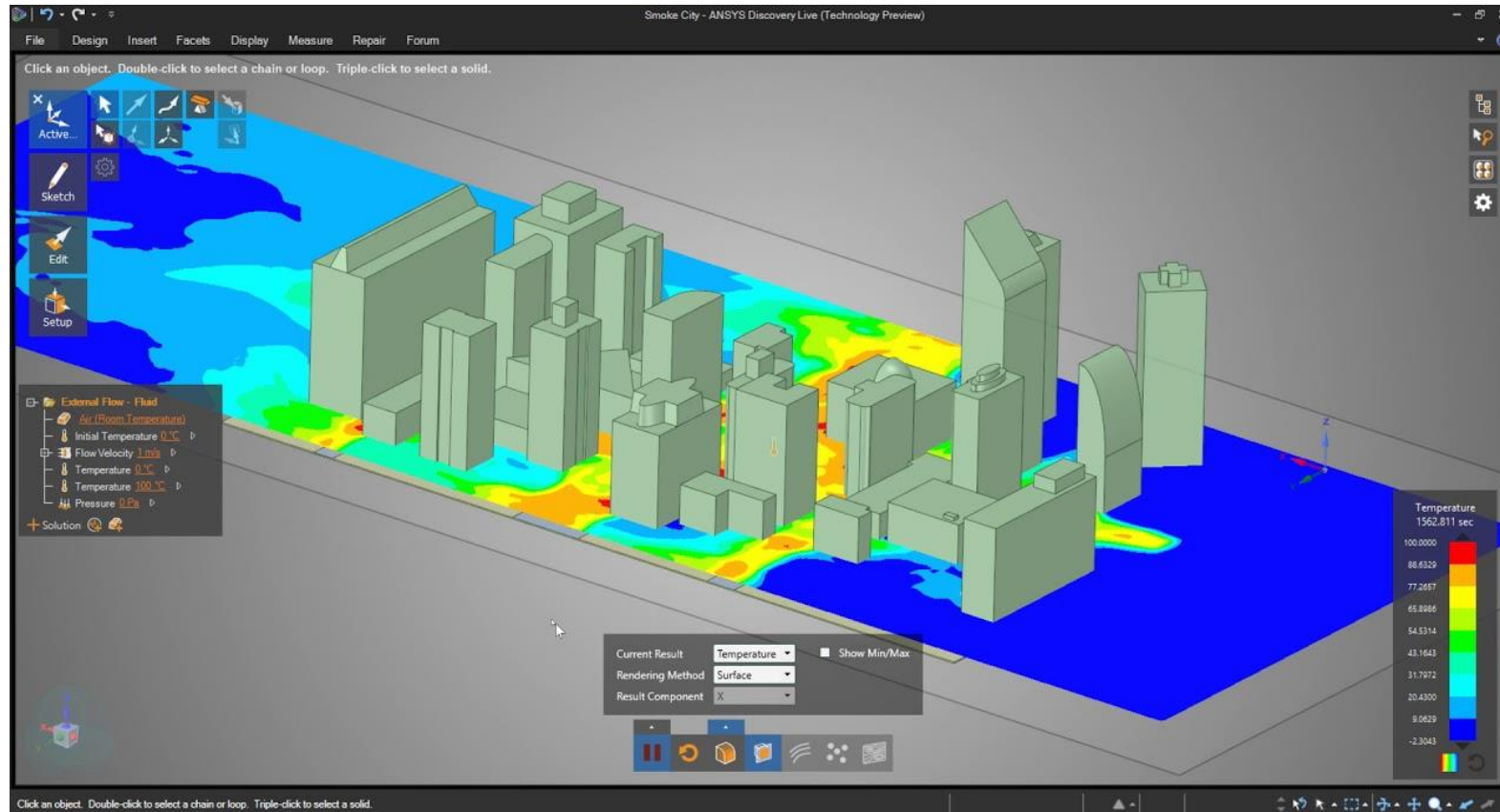
NVIDIA HOLODECK

Photorealistic Graphics, Multi-User Collaboration in VR



REAL-TIME ENGINEERING SIMULATION

Evaluate Alternatives Early in the Design Process



AI-AUGMENTED APPLICATIONS

Part of the AEC Workflow



GENERATIVE DESIGN



SAFETY/COMPLIANCE



SECURITY/SURVEILLANCE

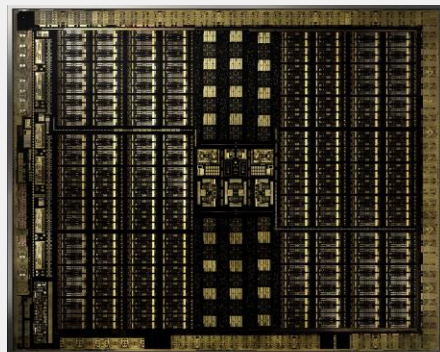


AI DENOISING

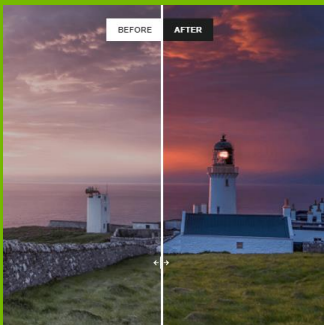
RTX FOR PROFESSIONAL WORKFLOWS



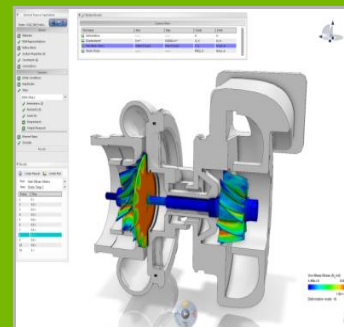
RTX RT Cores
accelerate ray
tracing, delivering
real-time cinema-
quality rendering



RTX Tensor Cores
provide the
compute power
necessary to
accelerate AI
augmented
applications



Advanced shaders
improve VR
performance and
quality. VirtualLink
brings simple
connectivity to next-
gen hi-res HMDs



Next-generation CUDA
cores speed up
GPGPU calculations
while advanced multi-
tasking features
improve combined
graphics/compute
workflow performance

NVIDIA QUADRO RTX

World's First Ray Tracing GPU

RTX 8000 48 GB

RTX 6000 24 GB

RTX 5000 16 GB

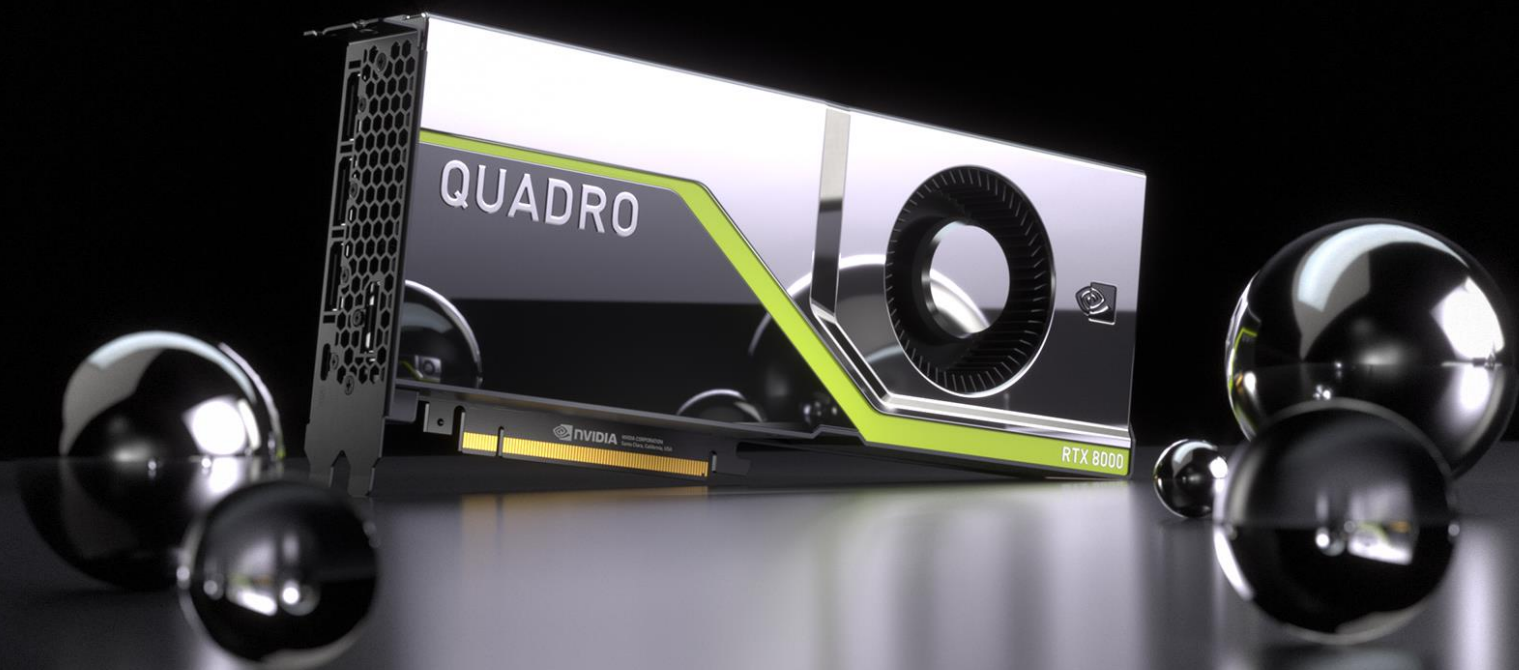
RTX 4000 8 GB

Industry-First GDDR6 Memory

NVLink™ Interconnect

8K HDR Ready

Next-Gen VR



BRINGING THE POWER OF RTX TO MOBILE

GPU-Accelerated Performance & Massive Memory in a Compact Form Factor

Latest Turing Architecture
& RTX Technology

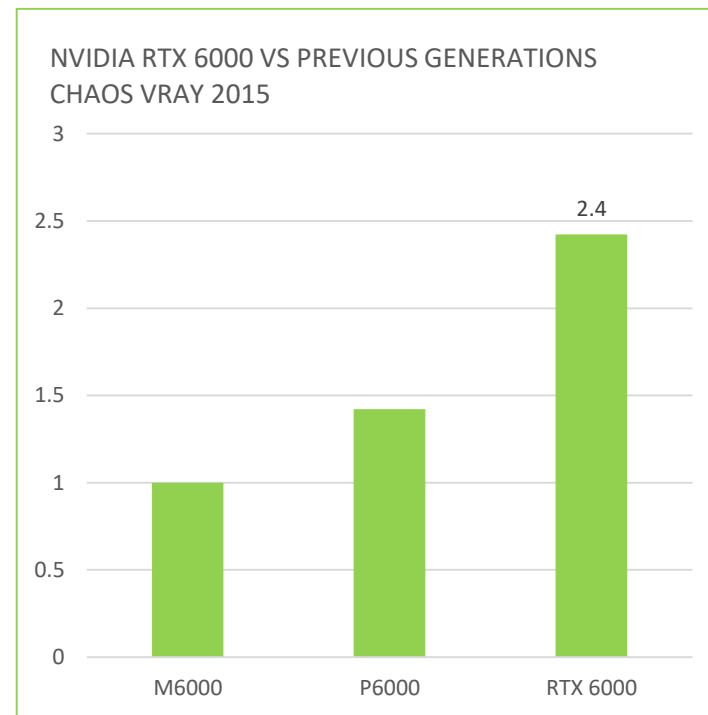
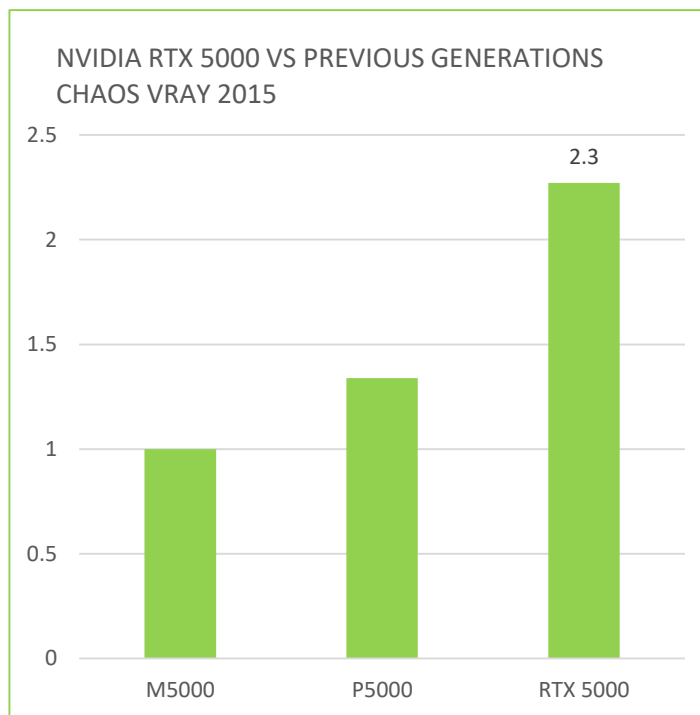
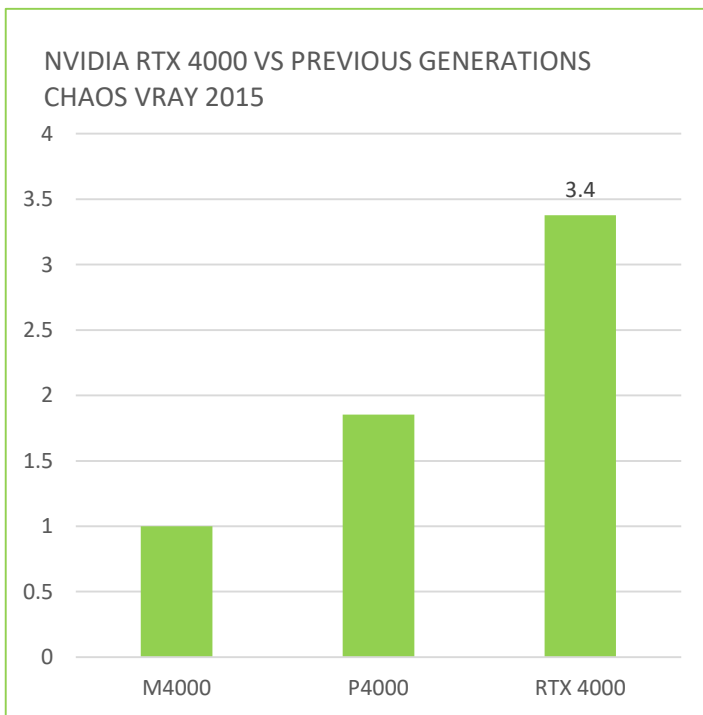
16 GB of Ultra-Fast
GDDR6 Memory

Enterprise-Class
Reliability



RAY TRACING PERFORMANCE

Gen-to-Gen Chaos Group V-Ray Performance



RTX support will provide additional performance

ADOPTION BY LEADING VISUALIZATION TOOLS



Dimension CC



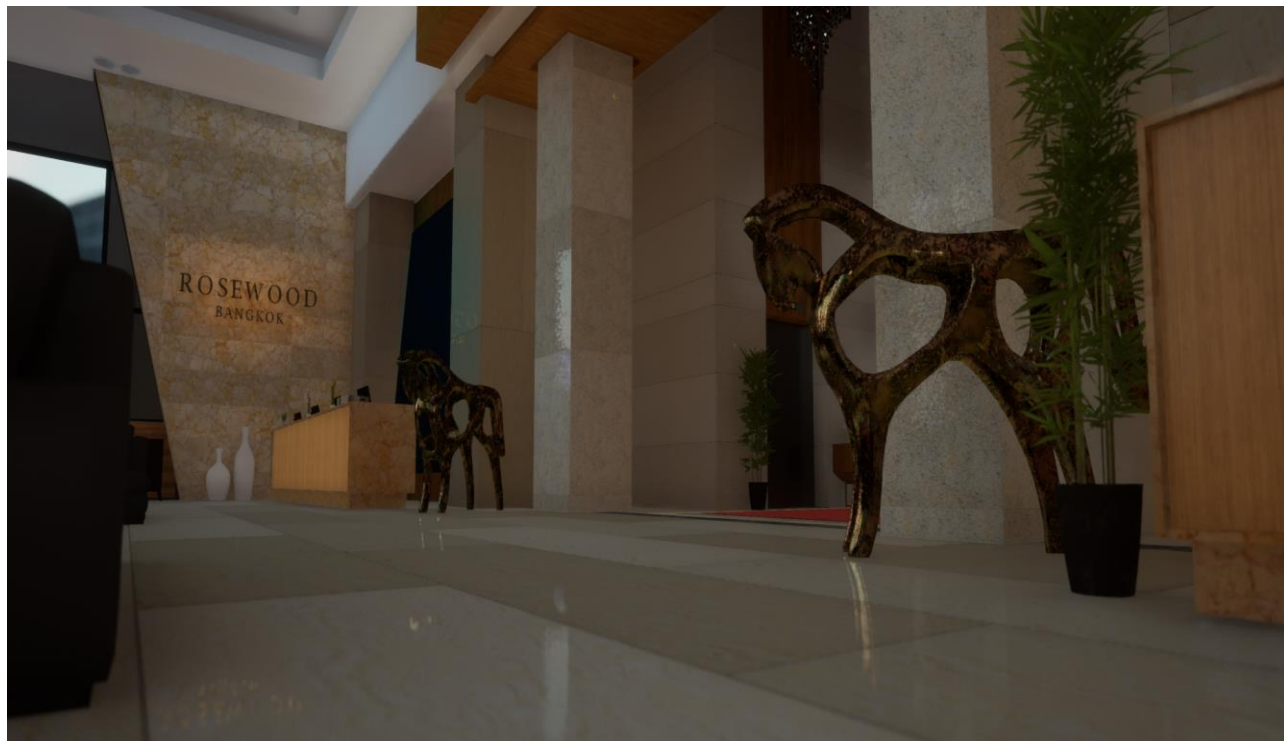
R E D S H I F T



QUADRO RTX FOR ARCHITECTURAL DESIGN

“Turing’s real-time ray tracing and AI capabilities will literally change our cities of the future.”

Cobus Bothma
KPF





Cobus Bothma, Director of Applied Research

REIMAGINE CITIES OF THE FUTURE WITH NEXT-GEN VISUALIZATION



Hudson Yards
New York

KPF



Lotte World Tower
Seoul

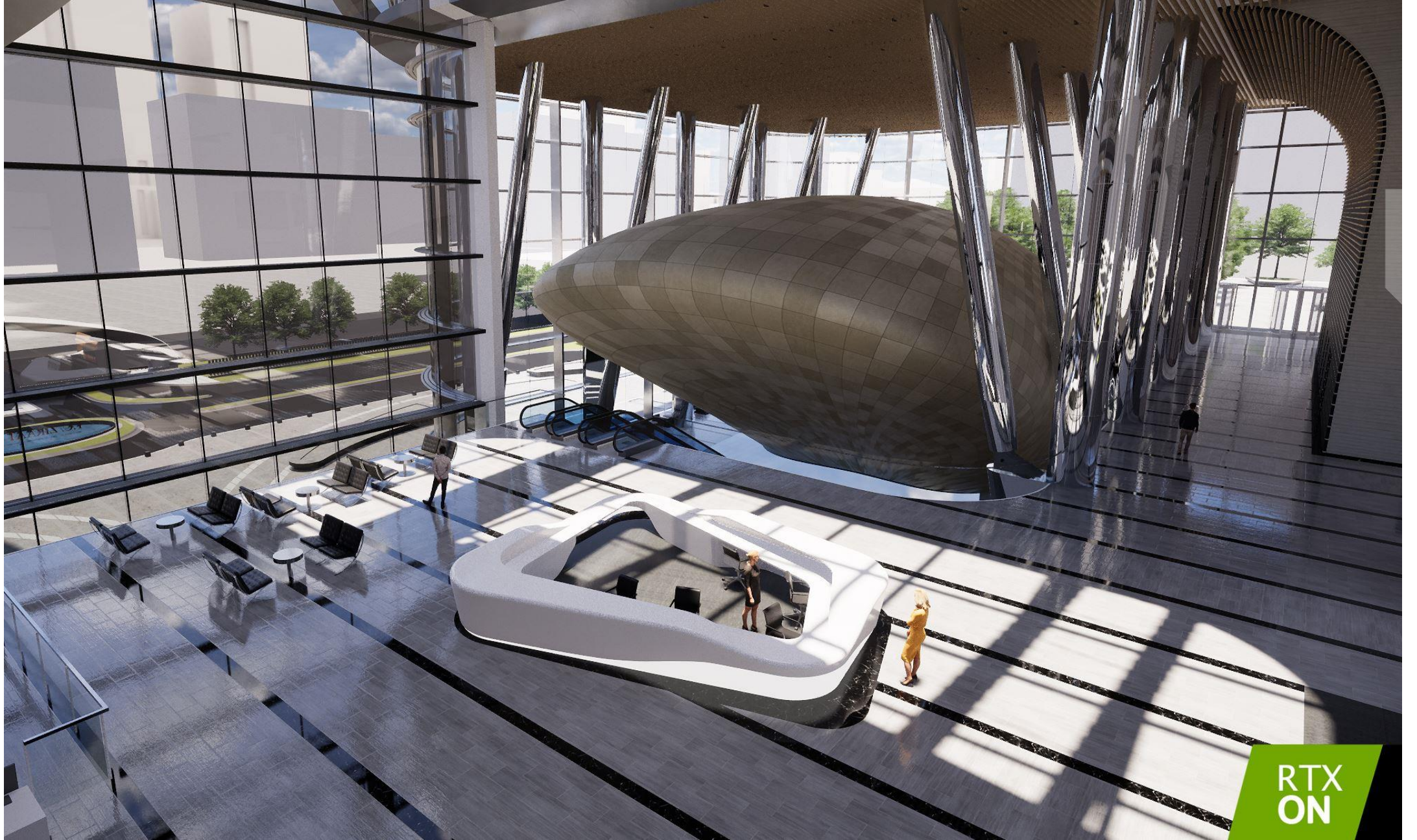
KPF

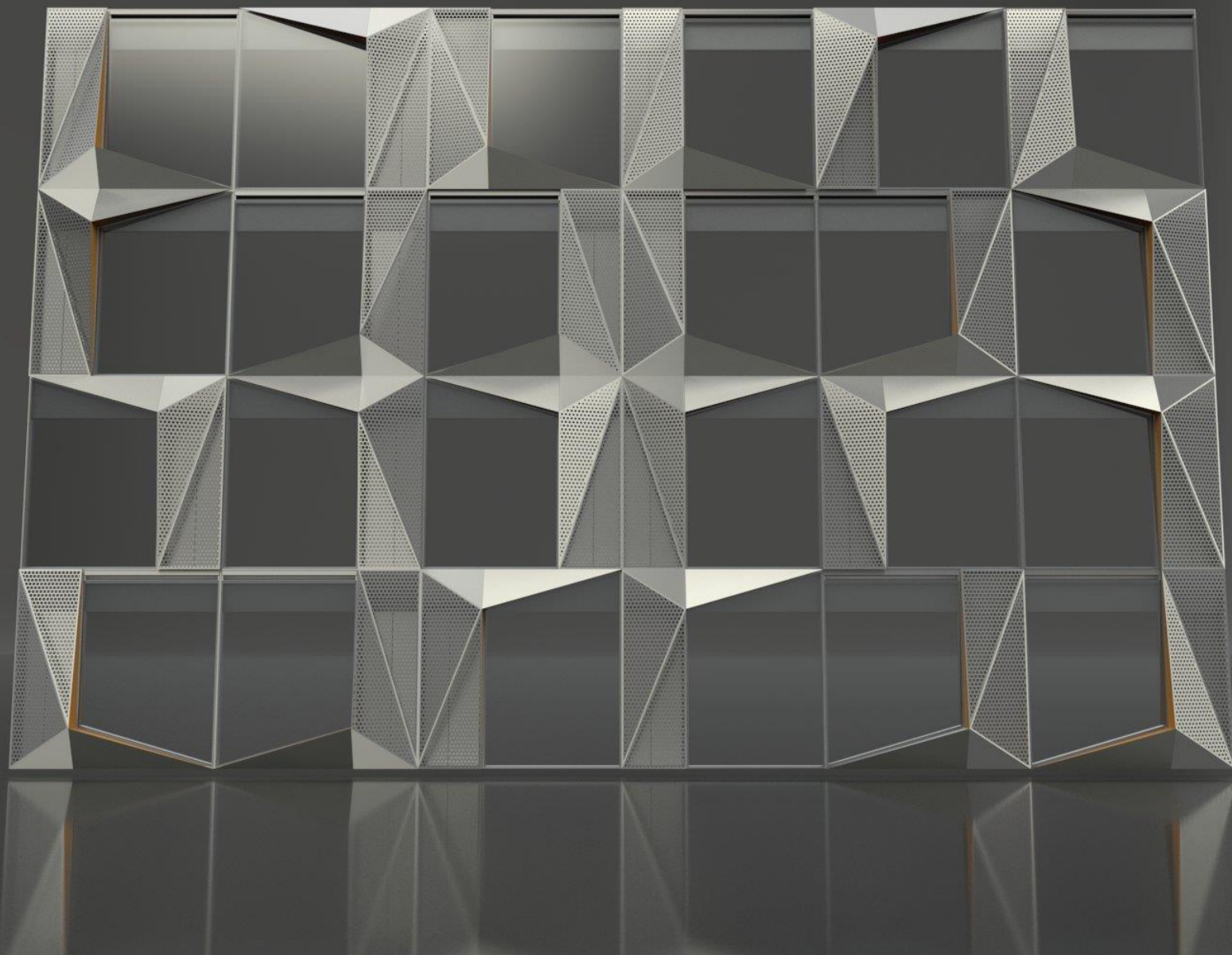


Nanning International Airport
Nanning



Petersen Automotive Museum
Los Angeles



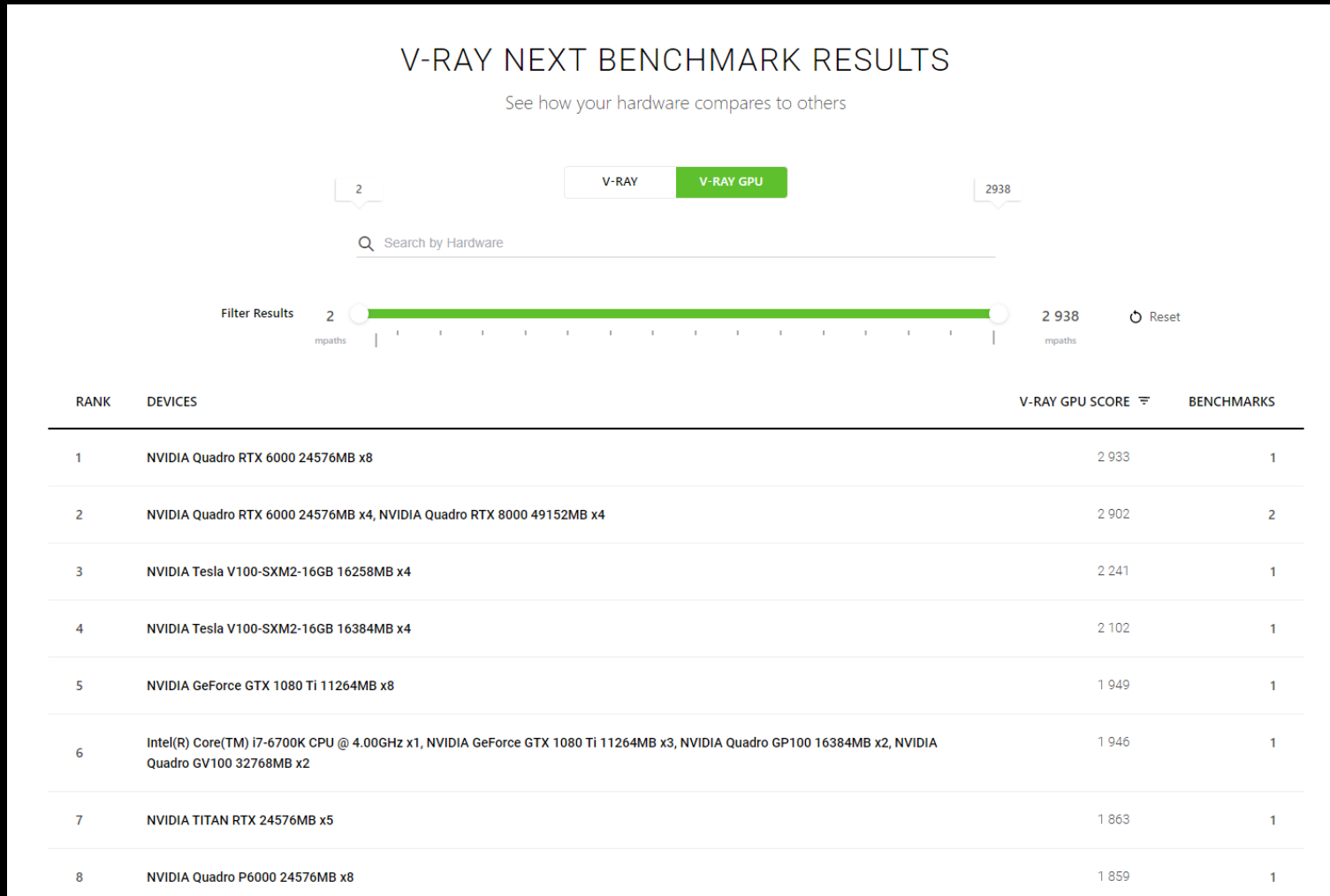




V-Ray on 3ds Max – 4K render on GPU only

NVIDIA Quadro VCA P6000 (X8) = 3m 17s

NVIDIA Quadro GV100 (X2) = 3m 31s



Keyboard Shortcuts (?)

901 spp, 53.19 s, 3.97 G GPU mem

Scene Geom Mtls Env-AO Lights

Cam Render Post Anim Lic UI

Scene load time : 13.37 s. (?)

Uniq. triangles : 18.93 million

Inst. triangles : 95.18 billion

Drag & Drop .vrscene file to load it. (?)

✓ Save camera in cfg Save .vrdx config

✓ Compact BLASes (on next scene load)

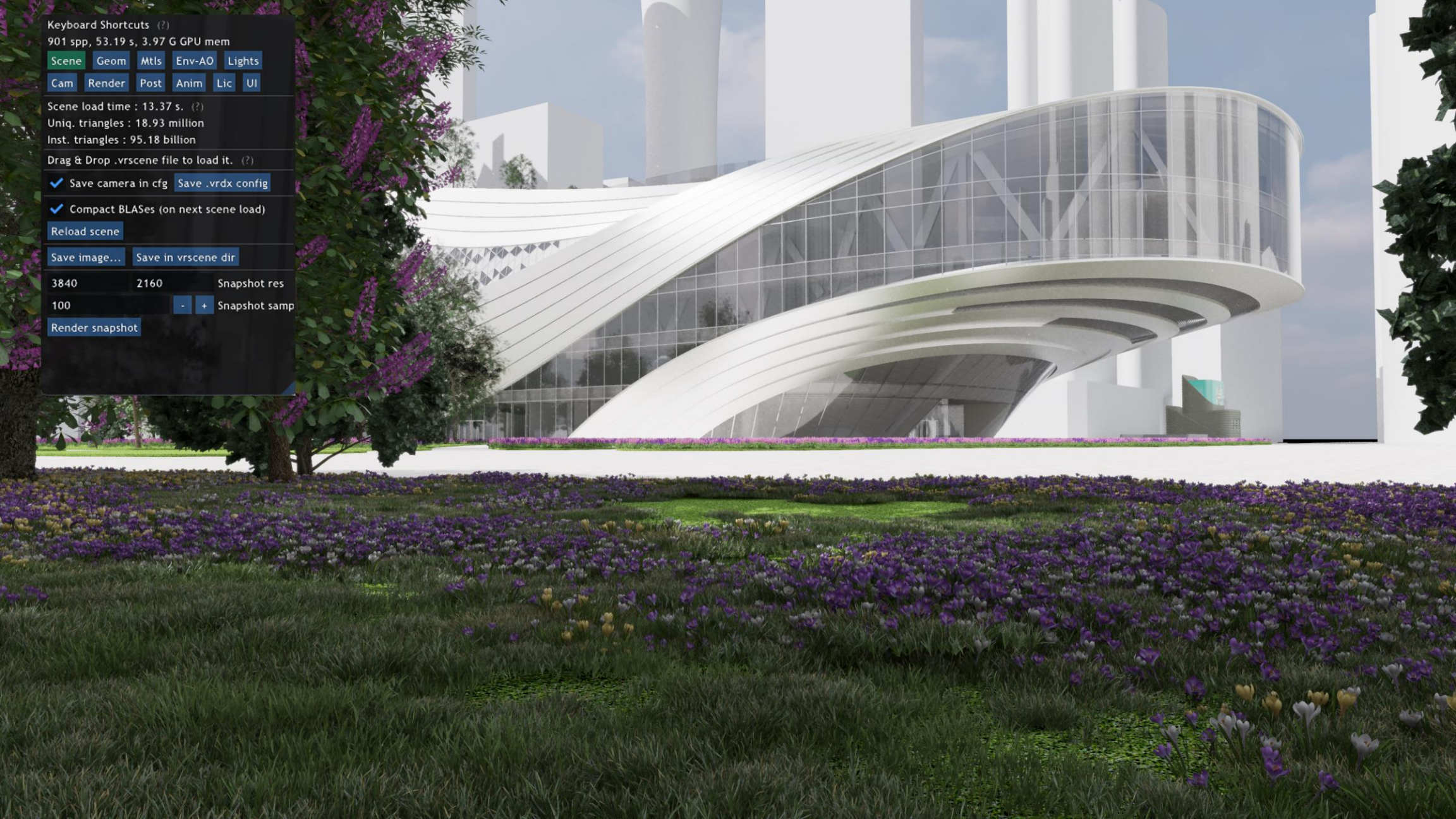
Reload scene

Save image... Save in vrscene dir

3840 2160 Snapshot res

100 - + Snapshot samp

Render snapshot



Keyboard Shortcuts (?)

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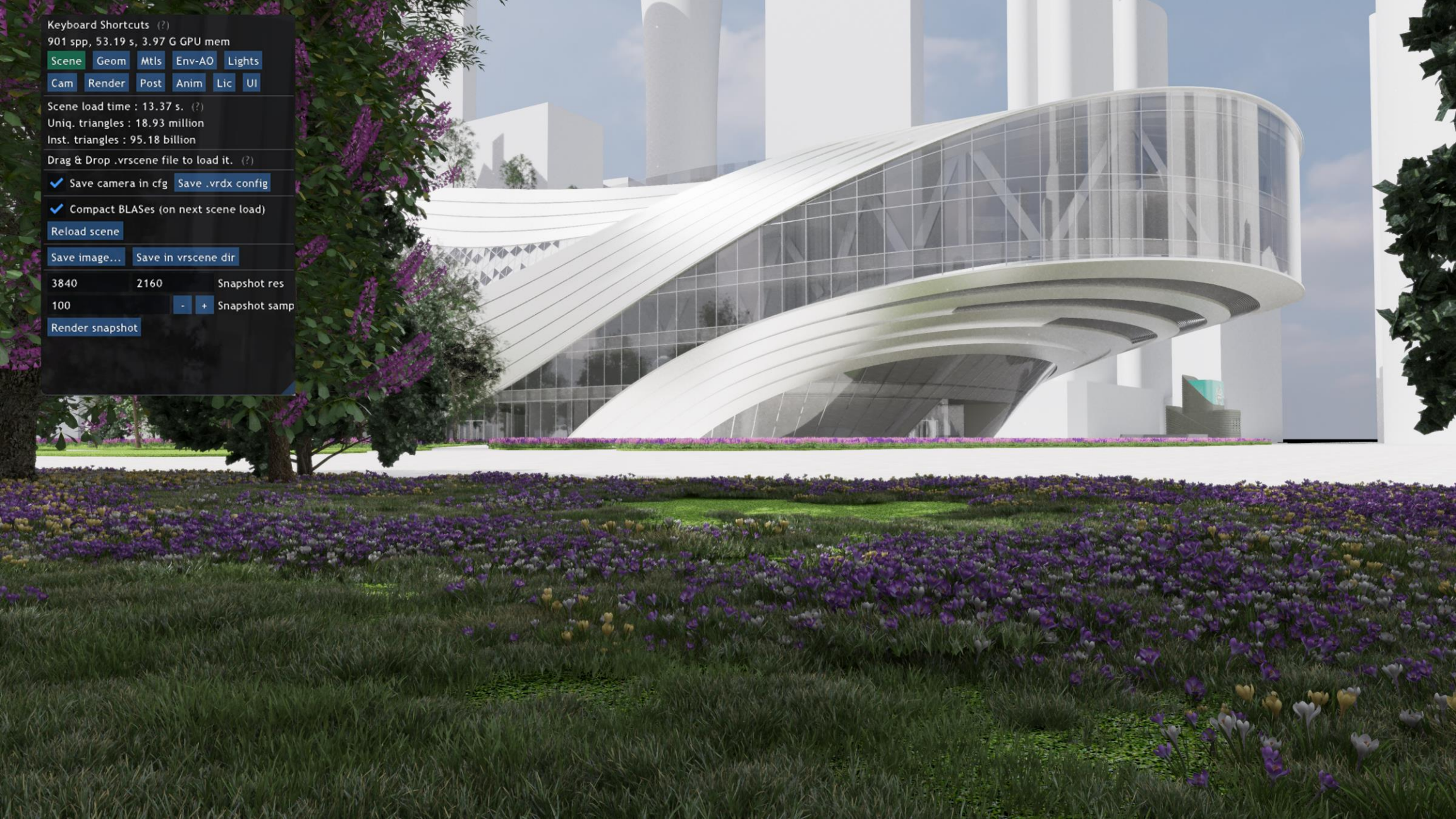
Reload scene

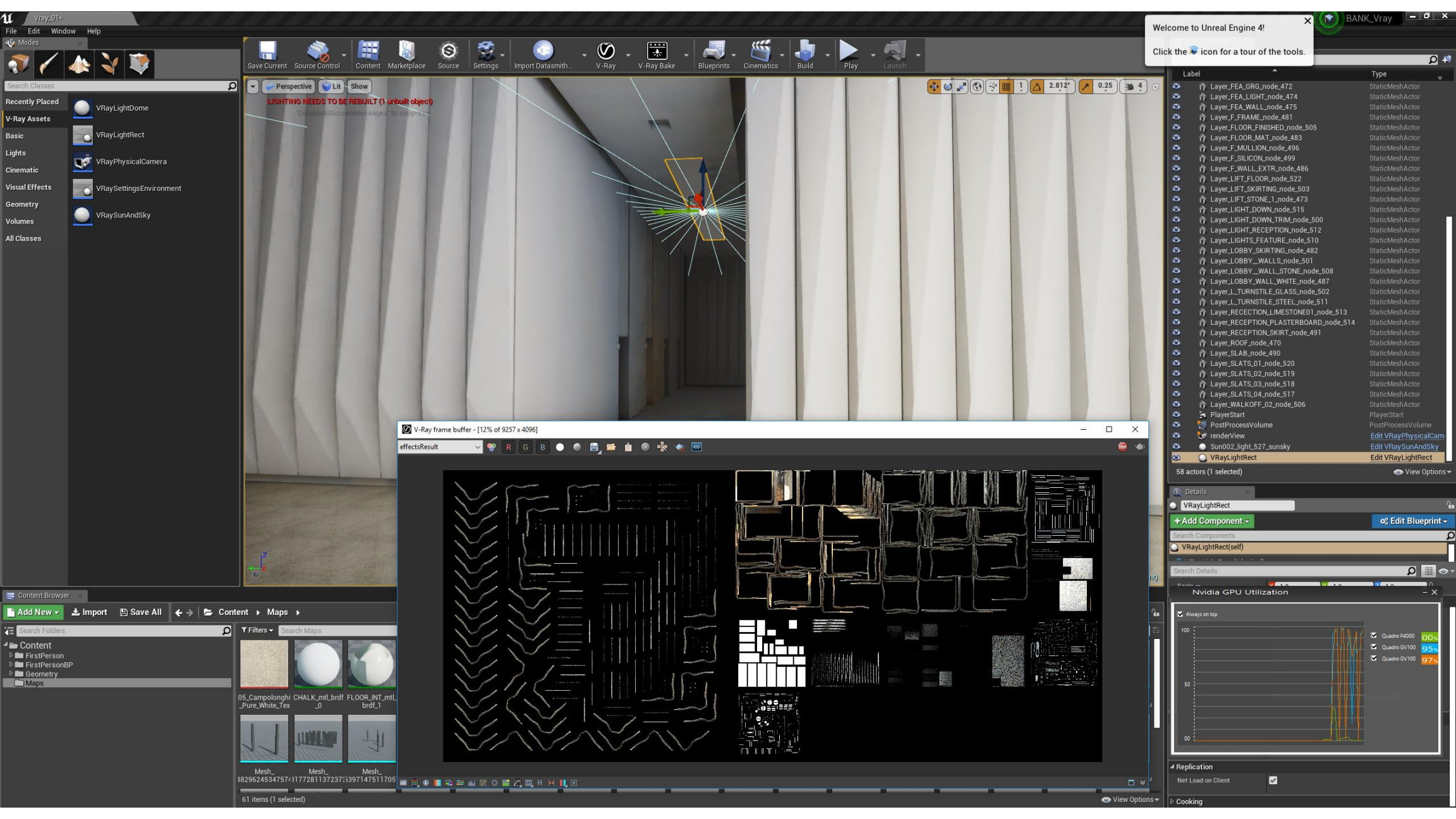
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100 - + Snapshot samp

Render snapshot









Q&A

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