

SUCCESS STORY | [ZERONE]

# SHIFTING STUNNING PHOTOREALISTIC RENDERS INTO HIGH GEAR

Adopting NVIDIA® Iray® rendering lets [zerone] deliver the breathtaking results their clients demand in minutes instead of hours.



# Physically accurate lighting and materials, combined with the fast previews and customizable photorealistic render settings of NVIDIA Iray, speed work and boost quality.

## AT A GLANCE

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### CUSTOMER PROFILE

**Company:** [zerone]

**Industry:** High-end visualization

**Location:** Headquartered in Hamburg, Germany

**Size:** 10 employees plus freelancers

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### SUMMARY

- > High-end visualization firm specializing in the automotive industry.
  - > Long render times slowed projects and reduced collaboration.
  - > Adopted NVIDIA Iray GPU rendering.
  - > Enabled usable results to be obtained in minutes, allowing better collaboration and higher quality.
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André Masmeyer  
Lead 3D Artist  
[zerone]

Founded in Hamburg in 1997 as a retouching company, [zerone] has evolved into a high-end digital production studio that specializes in providing still interior and exterior renderings, primarily for leading automobile manufacturers. Their proven success in seamless post-production and processing led them to open two new offices in Düsseldorf and Berlin and grow to nine full-time employees supported by freelance talent to meet rising demand. [zerone] works directly with clients and agencies to create visually stunning photorealistic results for use in a variety of print and online applications.

### CHALLENGE

[zerone] uses high-end CADnetwork W60 workstations equipped with NVIDIA® Quadro® K6000 and M6000 GPUs. This gives them the power to run Autodesk Maya with NVIDIA mental ray® and other applications such as Pixologic Zbrush and Adobe® Photoshop®. Exterior renderings are relatively straightforward for [zerone]; however, interior renderings require additional lighting and materials for best results. This is a time-consuming process for CPU-based rendering engines.

“The main challenge is that lighting and materials don't reflect the real world, which requires additional iterations. Meanwhile, we might have an agency or client visiting the office who wants to see adjustments on the spot,” said André Masmeyer, Lead 3D Artist at [zerone].

In response to these challenges, [zerone] experimented with real-time light positioning using the [0x1] Shader Library plug-in for mental ray in Maya Viewport. This offered fast results, but not the photorealism clients are looking for.



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## 5 REASONS FOR IRAY

- 1 Hardware rendering leverages available GPUs to greatly speed rendering.
- 2 Interactive modes allow collaboration with fast, accurate previews.
- 3 Photoreal mode delivers stunning, physically accurate results.
- 4 Users can simulate natural lighting conditions at any location and time on Earth.
- 5 Adding performance is as easy as adding GPUs.

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**[With Iray,] I instantly get a photorealistic feedback instead of waiting for a whole rendering to finish, which takes a few minutes depending on quality-settings, or dealing with non-photorealistic, OpenGL-based previews.**

André Masmeyer  
Lead 3D Artist  
[zerone]

## SOLUTION

[zerone] first learned about NVIDIA Iray for Maya thanks to their strong relationship with the team developing the functionality. Beta testing began soon thereafter, and users began noticing the difference almost immediately.

“Moving to Iray was a big deal for us because it is the first new package we’ve used in a long time,” Masmeyer explained. “We did this because more and more software packages are supporting GPU rendering and we can’t afford to be the last ones to jump on the bandwagon. We instantly get photorealistic feedback instead of waiting for a whole rendering to finish, which only takes a few minutes depending on quality-settings, or dealing with non-photorealistic OpenGL based previews.”

Final renders are typically about 10,000 by 8,000 pixels in size. The largest renders can be up to 40,000 pixels wide—a task made possible by the three NVIDIA Quadro M6000 GPUs installed in the newest [zerone] CADnetwork workstation.

## RESULTS

[zerone] leverages the strengths of fast, physically accurate Iray rendering for interior shots that involve more lights, materials, and light bounces than external shots. Interactive mode provides rapid feedback when moving a camera, turning wheels, or adjusting lighting and/or materials. When the time comes, Iray creates the final results overnight. Users can specify parameters such as the number of light bounces needed to render a fully realistic internal shot or a stop time in order to meet a deadline.

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A client recently gave us a photograph of a light shining through a door and asked us to replicate the results. Thirty minutes of work, and the results were indistinguishable from the original. They were amazed... and so were we!

André Masmeier  
Lead 3D Artist  
[zerone]

“Physically accurate lighting that includes sun and sky is another great feature,” continued Masmeier. “We can specify a geographical position and time of day, and the lighting will be spot on. A client recently gave us a photograph of a light shining through a door and asked us to replicate the results. Thirty minutes of work, and the results were indistinguishable from the original. They were amazed... and so were we!”

Moving forward, [zerone] will continue integrating Iray into their workflows, especially for moving objects and lights around the scene—a task that is currently easier than ever before. They are also experimenting with using Light Path Expressions (LPEs) to drive the compositing passes. These are custom passes that can calculate the propagation of light throughout a scene beginning with the source and bouncing among all of the objects, thereby bringing more accurate control into their compositing pipeline.

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