

EVOLUTIONS TRANSFORMS POST-PRODUCTION PIPELINE WITH AMD CPUS

Leveraging the power of AMD Ryzen™ Threadripper™ PRO processors for enhanced noise reduction workflows in Filmworkz software



Credit: National Geographic, Animals Up Close with Bertie Gregory

CUSTOMERS



INDUSTRY

Media & Entertainment

CHALLENGES

Increasing resolution and visual complexity outpaced legacy noise-reduction methods, requiring more powerful processing

SOLUTION

AMD Ryzen™ Threadripper™ PRO 3995WX CPUs and Filmworkz Phoenix software enabled efficient noise reduction, more time for iteration and high-quality output

RESULTS

Faster output speeds, more refined noise reduction, and enhanced creative flexibility enabled Evolutions to meet the exacting standards of high-end clients

AMD TECHNOLOGY AT A GLANCE

AMD Ryzen Threadripper PRO 3995WX processor

The art of post-production involves a delicate dance between creativity and technology.

Leading post-production facility Evolutions Bristol embraces the industry's relentless push for higher resolution and more complex visual effects, positioning itself at the forefront of technological innovation.

As the industry's requirements shift, the noise reduction aspect of Evolutions' process has become increasingly demanding of technology. Noise reduction removes unwanted visual 'noise' or graininess from footage to enhance clarity and make the final product more visually appealing. Evolutions needed a solution that could keep pace with the new requirements. Jasper Deen, workflow supervisor for Evolutions Bristol, explains, "At times, we receive critical footage that needs significant treatment. The noise reduction workflows were becoming a bottleneck, and we needed a solution that could enhance efficiency and elevate the quality of our work."

AMD Ryzen™ Threadripper™ PRO 3995WX processors emerged as the answer to this challenge. Integrated into Evolutions Bristol's workstations, these processors paired with Filmworkz Phoenix film and video restoration software have redefined what's possible in noise reduction workflows. The result? Faster output speeds, smoother workflows, and the ability to turn seemingly unusable footage into stunning visuals for a recent nature documentary project.

A game-changing solution

Filmworkz Phoenix software, essential to Evolutions' post-production process, relies on CPU-centric processing for noise reduction and detail enhancement. Will Blanchard, head of engineering at Evolutions Bristol, explains, "Filmworkz Phoenix and the related

set of Digital Vision Optic (DVO) tools we use primarily run on CPU, so you cannot just add multiple graphics cards to increase performance. The CPU you provide dictates how the software runs."

AMD Ryzen Threadripper PRO 3995WX processors have empowered Evolutions Bristol to leverage Filmworkz Phoenix software for quicker turnarounds and in-depth problem-shot treatment. Before the integration of AMD Ryzen Threadripper PRO 3995WX processors, a 60-minute UHD-HDR video's noise reduction process took around 24 hours. With the AMD Ryzen Threadripper, this was dramatically reduced to between two and a half and three hours. Blanchard was impressed by the processors, stating, "The potential for faster output speed and smoother workflows was

"We could have gone with a dual processor system, but AMD Ryzen Threadripper PRO processors gave us the performance we needed at a fraction of the cost."

Will Blanchard, head of engineering, Evolutions Bristol

exactly what we needed." Deen adds, "The pairing with Filmworkz software was seamless, allowing us to perform multiple noise reduction passes on footage, something previously unthinkable."

Reflecting on the cost-effectiveness and performance of AMD Ryzen Threadripper PRO processors, Blanchard adds, "The AMD Ryzen Threadripper PRO CPUs were not only powerful but also provided excellent value for money. We could have gone with a dual processor system, but the AMD Ryzen Threadripper PRO processors gave us the performance we needed at a fraction of the cost."

The choice of AMD processors was more than a technological upgrade; it was a strategic move aligned with Evolutions' commitment to excellence. "The ability to enhance footage, especially for natural history documentaries where the shooting ratio is high, has been a game-changer," says Blanchard.

Deen emphasizes the importance of meeting the high standards of their clients, stating, "Working with high-end clients requires us to deliver top-notch quality. The AMD processors have been instrumental in helping us meet those standards."

Deen also acknowledges the support from both AMD and Filmworkz, stating, "Both companies have been stellar. We have a specific color pipeline for HDR, for example. AMD processors, along with Filmworkz's tools, have allowed us to achieve the best results. They keep us up to date on any new developments as well."

More iterations faster for the perfect shot

The production of a recent high-end nature documentary put Evolutions' collaboration with AMD and Filmworkz to the test. The series, directed by an Oscar® award-winning filmmaker, demanded unparalleled attention to detail, texture, and color.

The production team for the documentary was among the best in the world, with a relentless focus on quality. As Deen reflects, "Working on the documentary pushed us to get ever closer to perfection. We were not only focused on telling the story but also on making sure that every part of everything seen was put in the right place and done on purpose. Everything was in support of the story."

The AMD Ryzen™ Threadripper™ PRO 3995WX processors and Filmworkz Phoenix software were crucial in meeting these demands. The team performed multiple layers of noise reduction, working extensively to capture the desired textures. Blanchard elaborates, "The attention to detail was more focused, and every decision was deliberate. With AMD processors, we had the time to try multiple versions and keep refining until we got the best out of each shot."

An example of the creativity enabled by the processing capability and software was a challenging time-lapse filmed at night. The shot was taken in "very harsh and difficult nighttime surroundings, with very dark conditions," as Deen recalls. The challenges included dealing with twinkling stars, dead pixels, and noisy elements while trying to separate

the noise from the actual picture without losing detail. Additionally, a bright light source in the image made extracting detail from light and dark areas difficult.

Blanchard elaborated on the challenges, stating, "We were trying to separate the light from the dark without ending up with a noisy image or losing the picture altogether." The AMD processors' speed advantage opened the door to experimentation, allowing the team to do many iterations using a variety of different settings. Blanchard expands on the efficiency gains, saying, "The speed of the AMD processors allowed us to iterate quickly. We could try different settings and see the results almost instantly, which was crucial in achieving the perfect shot."

The result was a four-episode saga that showcased the full potential of Evolutions' creative and technical capabilities. The documentary is a testament to the synergy between hardware and software, enabling Evolutions to transform complex visual challenges into stunning visuals that resonate with audiences worldwide.

Turning complexity into creativity with AMD

Evolutions continues to explore the cutting-edge capabilities of AMD Ryzen Threadripper PRO CPUs. The combination of technical and creative capacities within the company allows them to stay at the forefront of the industry. "The overall beginning-to-end experience, employing about 70 processes to create a high-end product, is what sets us apart," reflects Deen, emphasizing Evolutions' commitment to excellence. "Our workflow is quite complex, with many steps from the initial footage to the final product. AMD processors have been key in streamlining this process, allowing us to work more efficiently and creatively."

The integration of AMD Ryzen Threadripper PRO CPUs into Evolutions' workstations marked a significant milestone in the evolution of the company's creative pipeline. The net result is not just about faster rendering or more efficient workflows; it is about empowering creativity and pushing the boundaries of what's possible in visual storytelling.



About Evolutions

Evolutions is one of the UK's leading independent full-service post-production companies that delivers premium TV, film and commercial content for a wide range of international clients. Evolutions offers state-of-the-art facilities and innovative workflows in London and Bristol. Evolutions is known for its creative excellence, technical expertise, and customer satisfaction. To learn more about Evolutions visit [evolutions.tv](https://www.evolutions.tv).

About Filmworkz

Filmworkz is a leading media production company that provides innovative image-processing technology services for filmmakers and content creators. With over 30 years of experience and an Emmy award-winning sister company, Filmworkz offers a range of products that enable users to perform color grading, restoration, and file conversion tasks easily and efficiently. Filmworkz is committed to delivering high-quality solutions that meet the needs and expectations of its customers worldwide. To learn more about Filmworkz visit [filmworkz.com](https://www.filmworkz.com).

About AMD

For more than 50 years AMD has driven innovation in high-performance computing, graphics, and visualization technologies. Billions of people, leading Fortune 500 businesses, and cutting-edge scientific research institutions around the world rely on AMD technology daily to improve how they live, work and play. AMD employees are focused on building leadership high-performance and adaptive products that push the boundaries of what is possible. For more information about how AMD is enabling today and inspiring tomorrow, visit the AMD (NASDAQ: AMD) [website](https://www.amd.com), [blog](#), [LinkedIn](#), and [Twitter](#) pages.

All performance and cost savings claims are provided by Evolutions and have not been independently verified by AMD. Performance and cost benefits are impacted by a variety of variables. Results herein are specific to Evolutions and may not be typical. GD-181

©2023 Advanced Micro Devices, Inc. All rights reserved. AMD, the AMD Arrow logo, Ryzen, Threadripper, and combinations thereof are trademarks of Advanced Micro Devices, Inc. Other product names used in this publication are for identification purposes only and may be trademarks of their respective companies.