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CASE STUDY

Weareflink Adopts Prime Focus Software's Krakatoa on CCTV 'Ink' *High-Volume Particle Renderer Helps Animate Paint Brush Strokes for Ambitious TVC via Chinese Advertising Agency MMIA*

Motion design studio [weareflink](#) opened its doors in Hamburg, Germany in spring 2009. The company's founders, Executive Producer Andreas Lampe and Director/Motion Designer Niko Tziopanos, bring an impressive design pedigree to the fledgling shop, with a reel that showcases an ability to blend live-action and CG, and a unique specialty animating liquid ink.

Through its Paris-based production company [Troublemakers.tv](#), which represents weareflink for the French market, weareflink caught the eye of Chinese ad agency [MMIA](#), which was looking for a design partner that could execute a :60 television commercial end-to-end for [CCTV](#) (China Central Television), the country's leading television network. The ambitious project was to represent the journey from traditional China to modern China, all rendered in Chinese calligraphy-style ink and brush strokes.

"We've previously worked with the ink medium, shooting ink in a cloud tank and then manipulating the footage in post," says Lampe. "We knew however, that we wanted to take the CCTV project to another level entirely, and that meant researching other production techniques. MMIA wanted us to shape ink into well-known Chinese landmarks, animals and other visual elements, and only CG could give us 100 percent control over the ink's look and movement. During our R&D phase, we stumbled upon [Krakatoa](#), a particle renderer which we'd heard could render millions and even billions of particles at crazy fast speeds, so we decided to give it a shot."

Adds Tziopanos, "We're constantly researching new production tools, particular those for 3D/CG and compositing, and came across Krakatoa in 2008 while in production on 'Black Poem,' a promo film for Konzerthaus Dortmund. Because of that project's insane delivery schedule, we didn't have the time to really experiment with Krakatoa until the CCTV project landed in our laps. That's when we saw some animation tests made with Krakatoa and were floored by the results, so we decided to give Krakatoa a try."

Krakatoa is developed by [Prime Focus Software](#), the R&D and software development arm of Prime Focus VFX (formerly known as Frantic Films VFX). Designed as a plug-in for [Autodesk 3ds Max](#), Krakatoa is a high-performance volumetric particle renderer that enables visual effects artists to create dust, smoke, silt, ocean surface foam, plasma, solid objects and yes -- liquid ink -- all at unprecedented speeds.

"Ink" starts with a droplet of ink in water, which transforms into mountains, a fish, a bird and then a

dragon. These are familiar subjects of Chinese painting, but then it morphs into people practicing Tai Chi. Eventually the ink droplet transforms into the skyline of Beijing with CCTV's iconic new building as the centerpiece.

Weareflink's workflow involved shooting ink in a water tank to generate reference imagery for the eventual animations. And because the studio was animating in a number of software programs, it had to develop an entirely new workflow to handle the 3ds Max, XSI, Cinema 4D and motion capture data. Weareflink did the particle simulation in FumeFX, and then handed over velocity data to Pflow. Afterwards, particle sequences were partitioned with Krakatoa and finally rendered.

"We found that Krakatoa seamlessly integrated into this unconventional workflow," shares Lampe. "We encountered absolutely no issues whatsoever, which is a great thing to say about a software tool! Krakatoa's user interface was very intuitive, allowing our artists to get up to speed very quickly. This ended up being very crucial, because we were faced with a very short -- and very set deadline. We literally had to work in two shifts from start to end, so having toolsets in our arsenal that we can leverage quickly and that render at mind-blowing speeds was key."

Continues Tziopanos, "Krakatoa was able to give us the detail we needed, and enabled the ink to look and feel as natural as possible. Krakatoa also lets you to work with particle passes, which really improves efficiency. Despite having to go through approvals with MMIA and CCTV every four days, we were able to meet these deadlines and show them our progress and new iterations because we only had to use very few passes (between four and seven) to give them a first impression of the final animation. This only took us a few hours, including caching and rendering for each take. After the client approval process, we'd add 20 or 60 more passes to get the desired higher resolution. While we did cache the different passes, we were able to use the low-res renderings to start compositing. After completing the caching process, the rendering speed was insanely fast and helped us to quickly swap the files."

For the CCTV production, weareflink ran Krakatoa on PC Vista Ultimate 64 workstations, along with 3ds Max 2010, its primary 3D modeling and animation software. 3ds Max was used in tandem with the FumeFX plug-in, with Autodesk Softimage 2010 also deployed for modeling and some particle work with Ice. Maxon Cinema 4D handled animatics and some modeling, with the compositions completed and finalized in Adobe After Effects. In November 2009, CCTV "Ink" won two Gold Awards at Promax Asia - a Gold for Best Out of House Station Image Promo, and a Gold for Best Animation.

Prime Focus Software is a division of Prime Focus, a global visual entertainment services group providing creative and technical services to the film, broadcast, commercials, gaming, internet and media industries. Prime Focus Software has a reputation for innovative custom-built R&D solutions and quality software products, including its popular Deadline Render Farm Management System, the Awake stereoscopic plug-ins for eyeon Fusion, and its high-performance volumetric particle renderer Krakatoa. For more information, visit www.primefocusworld.com

Weareflink is a filmmaking and motion design studio based in Hamburg, Germany that blurs the boundaries between design, computer graphics, visual effects and live-action. Fearless of unconventional approaches, weareflink merges innovative thinking and a broad range of production techniques. Its award-winning team specializes in mastering the art of multi-disciplinary motion content creation. www.weareflink.com